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# FOURTEENTH ANNUAL REPORT

OF THE

# STATE BOARD OF HEALTH

OF

# NEW YORK.

## VOL. I.

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TO THE LEGISLATURE FEBRUARY 15, 1894

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# REPORT.

To the Hon. ROSWELL P. FLOWER, *Governor of the State of New York:*

Sir.—The State Board of Health respectfully submits the fourteenth annual report, giving a full detail of all work performed and all expenses entailed and paid. It can confidently be said steady increase on the work of the public health department is yearly noticed and the advantage to the commonwealth is not to be calculated in dollars and cents alone.

## WORK FOR PREVENTION OF CHOLERA.

Owing to active and efficient work on the part of government inspectors abroad at ports of embarkation, cholera, which broke out in western Europe in the spring with renewed vigor, did not gain a foothold in this country. Its threatened invasion, however, caused greater activity on the part of all employed in the public health service, and no effort was spared to place in readiness all points of entry into the State. While these were first examined, the larger cities and towns were, in turn, visited, and reports made as to their sanitary condition, water supply, sewerage, means for caring for and isolating cholera patients, the condition of railroad stations and steamboat landings. These reports, made by inspectors appointed for the purpose, and who only served for a short period, were transmitted to the local health authorities that the suggestions contained in them could be acted on by those having the power and whose duty it is to guard the health of their municipalities, the local boards of health. This work has resulted in other good than merely preparing for an epidemic. It has aroused more interest in preventive medicine and added to the efficiency of local boards by stimulating them to more decisive action in sanitation. The advantage of having authorized representatives of the State

Board visit and consult on health measures with local offic encourages the latter in their duties, is a practical assurance State aid and gives to the local authorities an assistance wh counteracts local pressure. In reply to the reports of the d sional inspectors, many local health officers have stated recommendations made were being carried out. This gives added assurance to the people of the State that less disease a preventable nature will be found to exist in the coming y for every improved sanitary condition lessens the chance the lodgment or continuance of disease germs.

For the purposes of this work, when it was begun late June, the State was divided into six divisions, all but one bor ing on other States or Canada, and an inspector assigned each. October first, the work having been almost complet four of the inspectors were relieved from duty and the St apportioned into two divisions which were cared for resp tively by the two remaining inspectors. These were relie from duty on January 1, 1894, as well as an assistant inspec who had been stationed at Buffalo. It would be of great adv tage could the Board be allowed sufficient money to per nently employ one or two sanitary inspectors. Health offic are engaged in the active practice of their profession as well serving in an official capacity. Members of health boards a do not and can not give their whole time to the work. T visitation at periods of an inspector familiar with the dut pertaining to the public health work, would result in a mar increase in the efforts to secure better service and more hygie reforms. This has already been shown by the work of inspectors employed the past summer. Attention is invited the detail reports of the sanitary inspectors herewith append

## SANITARY CONDITION OF THE STATE.

At the commencement of the year an epidemic of influe as in 1892, was in progress, having begun during the clos weeks of the year preceding. This was the fourth recrudesce of this extraordinary disease, which begun its series of epide in December, 1889, and prior to 1893 caused 21,000 death this State. This fourth epidemic was unusually gradual in

development, reaching its height in April, in which month it caused not less than 2,000 deaths, its total duration being six months, and the total estimated mortality from it being 6,000. The first epidemic caused 5,000 deaths; the two succeeding each 8,000. There have thus far been intervals of between six and nine months between these recurrences; a lessened fatality seems to attend its later development, which may warrant the anticipation of its subsidence. At the close of the year, after an interval of six months, a fifth recurrence has set in, somewhat abruptly, and it has caused 1,000 deaths during December.

The total mortality from all causes as reported in the Monthly Bulletin of the Board for the year was 123,908; including delayed returns there is a record of 128,274 deaths. The death rate for the year was 19.50; in 1892 it was 20.78; in 1891 it was 21.43; in the two preceding years 19.65.

The months of March and July had the highest death rates; in June and November the least number of deaths occurred. On account of the grippe epidemic the proportion of mortality was higher in the spring than in the summer months.

The infant mortality (under 5 years) was 33.6 per cent of the deaths at all ages; that of the preceding years, respectively, was 33.5, 34.5, 36.6 and 38.6.

From zymotic, or contagious and infectious diseases, there were 180 deaths in each 1,000 deaths from all causes; the ratio for preceding years was 182.87, 178.00, 169.00 and 206.00.

Typhoid fever has for two years been of moderate prevalence, causing 13.5 per 1,000 of the total mortality; in previous years from 14.0 to 15.5 per 1,000. There were about twenty-five deaths for the entire State per 100,000 population; in the different sanitary districts this ranged from twenty to forty, the Maritime district being as usual the lowest, and the Hudson Valley the highest. In the cities and villages, taken as a class together, of the Hudson Valley there was the highest mortality, over fifty-three deaths per 100,000 population, of any group in the State. In the rural parts of the State there was a smaller death rate from typhoid fever than in the cities and villages, which is unusual.

Diphtheria caused a somewhat larger number of deaths than last year, about 6,000, which is 1,000 more than occurred in the two years preceding, but not more in proportion than occurred in the two years before that. The chief increase was in the southern and central parts of the State, and the attention of the Board has been given to a number of localities where is was excessively prevalent. The eastern districts have, on the other hand, been unusually free from diphtheria. There were eighty-nine deaths from this cause in each 100,000 of population, and while there were 110 deaths per 100,000 population in the cities of the State there were only forty in rural towns; this disproportion was even more marked in 1892.

Scarlet fever showed a marked diminution in prevalence and mortality over recent years, each month of the year from the beginning having fewer deaths reported from it, only about ten per cent of the entire number of deaths from this cause having occurred in the fall months. It has, therefore, for several years, been the cause of about the same rate of mortality. There were about twenty-five deaths in each 100,000 population, the ratio for cities being three times that of the country.

Measles caused the least number of deaths of any year on record, and but half the number of 1892.

Whooping-cough was returned as causing an unusually large number of deaths, a somewhat sudden increase occurring in February, which continued through August. Prior to that, for two years, the mortality was comparatively slight. It is characterized by periods of increase lasting for a few months, followed by periods of subsidence, and these occur irrespective of season. Of the reported mortality, ninety per cent occurred in the cities and large villages, and more than three-fourths occurred in the Maritime district.

There was a rate of mortality from diarrhoeal diseases not differing much from that of past years; about 170 deaths per 100,000 population for the year in the cities and fifty per 100,000 population in the rural towns.

Malarial diseases are reported as causing fewer deaths than usual. There is good reason to believe that a portion of the deaths returned as from this cause are really to be attributed

to typhoid fever; the term *malaria* is not always employed with discrimination as a cause of death.

Cerebro-spinal fever is reported as causing a larger number of deaths than usual; as is usual it was most prevalent in the spring months, and to each 100,000 population there were three times as many deaths in the cities as in the country.

Small-pox has prevailed in New York and the Maritime district since early in 1892, following two years of almost entire freedom from it. There were 126 deaths in 1892 and 234 in 1893. No deaths occurred outside of the Maritime district, but isolated cases occurred at a few points. The disease has been prevalent in other States, in some of which extended epidemics have prevailed.

There were 13,169 deaths from consumption during the year — a somewhat smaller number than were reported in the three years preceding. A little more than one-tenth of the total mortality was from this cause; in the last eight consumption caused about one-eighth of the entire mortality. There were two deaths in each 1,000 of the population, and the ratio of mortality was made larger in the cities than in the country, probably about double as compared with living population.

From acute lung diseases there were 160 deaths in each 1,000 deaths from all causes. This is larger by from twenty-five to thirty deaths than occurred prior to 1890, but this rate has existed since then and is due to the prevalence of epidemic influenza since that time. A similar, though less marked increased in the mortality from diseases of the nervous system, the digestive organs, and other local diseases occurred, and from a similar cause. So also was the mortality reported from old age and diathetic diseases increased.

The year 1893 was not characterized by the occurrence of any serious epidemic except that of influenza, and the general mortality was somewhat below the average.

## PLANS FOR SEWER SYSTEMS AND SEWAGE DISPOSAL.

The wisdom of the law under which villages could appoint, through the board of trustees, sewer commissioners, have plans

of a sewer system prepared and submit them to the State Board for approval, continues to be exemplified by the number of villages coming for review. It having been found so advantageous for corporate villages, the Legislature of 1893 passed a bill, which duly became law, allowing unincorporated villages to construct sewers and drains under the approval of this department. Statistics show no more valuable method of increasing the healthfulness of a town has been formulated than by a systematic, safe and proper disposal of its sewage and wastes. Wherever this has been done, zymotic disease has been lessened and the benefits of those systems put in under the approval of this Board will be apparent in the decreased death rate of the State. While the first cost to the village constructing sewers appears to the taxpayers to be in excess of the benefit to be derived, the material welfare of the place will as surely increase as its freedom from disease becomes greater, and the bringing in of residents seeking healthy locations lessens the cost of taxation. The knowledge of sanitation being much more widely spread now than a few years ago, summer resorts are realizing the importance of being able to say sanitary science has been added to the attractions of nature, for questions are asked before quarters are taken relative to the sewerage and drainage.

During the past year maps, plans, profiles and specifications for systems of sewers and sewage disposal have been received and approved by the Board for the following-named cities and villages: Camden, Cazenovia, Cobleskill, Echota, Fort Plain, Haverstraw, Herkimer, Ilion, Irvington, Lake Placid, Mount Vernon, Niagara Falls and Sidney.

The plans presented by the village of Camden provide for a separate system of sewers with flush tanks, and the sewage is discharged in a crude state into a rapid creek that empties into Oneida lake. No supply of water for drinking purposes is now nor likely to be in the future taken from this stream.

Cazenovia also presented plans for a separate system of sewers that are designed to cover the entire village. The sewage is discharged, without being treated, into Chittenango creek, and as this stream is used as a feeder for the Erie canal the flow

of water during the dry season will be as great as at any period of the year, and the dilution will therefore always be large. No water for drinking purposes is taken from the stream below the point where sewage is discharged; hence, there is no actual reason why sewage-disposal works should at this time be provided for.

The village of Cobleskill submitted plans for a change of original sewer plan; also plans providing for sewage purification by filtration.

The Board was of the opinion that in order to make the scheme for sewage purification thoroughly effective some means for protection should be had for the filtration beds during periods of extremely cold weather. This matter was the occasion for considerable correspondence between the secretary of Board and Sanitary Engineer E. W. Bowditch, which correspondence is printed in this report and is of considerable interest. The plans finally received the approval of the Board.

Echota, a suburb of the city of Niagara Falls, discharges its sewage into the Niagara river after treatment by means of chemical precipitation.

The plans that received the approval of the Board provide for sewage disposal and for separate systems of sewerage and canal and storm water drainage. The whole arrangement is quite complete and has much to commend it.

The Board approved plans for a system of sewers for the village of Fort Plain that proposes to discharge untreated sewage into the Mohawk river, but provides that sewage disposal works shall be constructed at such time as the Board shall so direct. Fort Plain is situated forty-one (41) miles above the city of Schenectady, the nearest point below that village at which water for potable purposes is taken from the Mohawk river. All of the sewage of the city of Amsterdam, only sixteen miles above Schenectady, and that of the city of Gloversville and the large village of Johnstown near it is discharged directly or indirectly into the Mohawk river without being treated, and it is apparent that no special harm will come from the small quantity added at Fort Plain. It is proper to note here that Schenectady is about to seek other sources of water supply.

The village of Haverstraw has constructed a system of sewerage during the past year, and the sewage therefrom is discharged directly into the Hudson river. As no water for domestic uses is taken from the Hudson at or near this place and as all sewage discharged into the stream at the point named becomes highly diluted there is no objection to it being so discharged. The plans provide for sewering part of the village only, but will probably be extended at some time in the near future.

Herkimer, a village with a population of 4,500, is situated on the Mohawk river, into which stream the sewage of the village is discharged. The Board approved plans for a system of sewers and sewage disposal on March fifteenth, and the plans provide for sewage purification by means of chemical precipitation. With proper care and attention being given to the matter of disposal the effluent ought to reach the river in such a state that no danger can possibly arise from its being discharged into the Mohawk.

Ilion, a manufacturing village on the Mohawk river, proposes to discharge its sewage into that river at a point near the village named. In the plans submitted for the approval of the Board sewage disposal is provided for and disposal works will be constructed in the future. In the meantime the small quantity of sewage discharged by the village into the Mohawk river will not seriously increase the pollution of the water of that stream. The people of Ilion will be required to construct sewage disposal works at such time as sewage treatment shall be provided for by the various cities and villages along the Mohawk.

Irvington-on-the-Hudson asked for and received the Board's approval of several changes of plan for the sewer system of that village. The sewage wil be discharged into the Hudson a long distance from any point at which water for potable purposes is taken, hence there is no special reason for sewage treatment.

Upon the application and petition of certain land holders of that part of the town of North Elba, Essex county, known as Lake Placid, the Board approved plans for constructing a system of sewerage for the settlement about Lakes Mirror and

Placid. As there are but a limited number of people living in the district the public spirit exhibited in the construction of a system of sewers is highly commendable.

The sewage of the greater portion of the city of Mount Vernon has been, up to this time, discharged into Eastchester creek in a crude state, but this unsanitary condition of things is about to be remedied. Plans for sewage purification by means of chemical precipitation have received the approval of the Board during the past year, and the construction of proposed works will remove the cause of complaint from many sources.

On January eleventh the board gave its approval to plans for a change of the sewer system of the city of Niagara Falls. This change was made to meet the requirements of the city charter and provides for the discharge of a portion of the sewage through a tunnel having an outlet near the foot of the falls. The original plan provided for discharging the sewage into the tunnel of the Niagara Falls Power Company, which plan, for various reasons it was considered best to abandon. The amended plans show a tunnel of large area of cross section, but as the city is growing rapidly the size will be none too large in the near future.

The village of Sidney is located on the Susquehanna river and has a population of about 1,400, and discharges sewage into that river without being treated. As no water is taken for potable purposes at any point below Sidney nearer than fifty miles the danger of pollution from the limited quantity of sewage emptied into the river at this place is quite remote.

## INVESTIGATIONS BY ORDER OF THE GOVERNOR.

In May, 1893, your Excellency directed an examination of the discharge of sewage from the trunk sewer of the village of Flatbush into Mill creek, in the town of Flatlands. This matter had been before the Board the year previous on complaint of residents of the town of Flatlands, and a meeting had been held of the town board of health at which action was taken looking to relief from the nuisance. It not being attended with results, a

petition was presented to your Excellency and further examination made under your order. Four sittings by the committee appointed by the Board were held, at which testimony was taken relating to the subject, and inspections were also made of the creek where the sewer discharged. After hearing all who wished to speak on the matter at issue, the Board presented a report on the nuisance for your action. The proceedings of the committee and the report will be found in the appendix.

Another case where your Excellency directed the State Board to examine was a nuisance complained of by inhabitants of New Rochelle, the nuisance being improper sewage discharge. In this case the committee's duty was light, for careful inspection not only easily proved the complaint was well founded and the nuisance one clearly requiring remedy, but further inquiry revealed the fact the local authorities were preparing plans for permanent relief, and consequently the Board has no recommendation to make on which your Excellency could base an order. This report is also appended.

## EXAMINATION OF THE HUDSON AND MOHAWK RIVERS.

Owing to his removal from the State, the engineer in charge of the investigation of the Mohawk and Hudson rivers as sources of water supply makes his final report of the work done thus far, and makes a statement of the conclusions to be drawn from the data obtained during the course of the investigation. He gives a resume of the facts observed during the engineering inspection, including a statement of the geological peculiarities of the different parts of the watershed, the data regarding rainfall and flow of streams, the population on the watershed, its distribution and increase, the amount of observed pollution of streams from such population and the manufacturing operations carried on, the proportion of the polluting matters to the volume of water in the streams, and such other miscellaneous data as aid in reaching a fair understanding of the facts regarding the pollution of the streams. A statement is also given of the water supplies drawn from the streams, and the results of

investigations and analyses of particular water supplies are given in detail where they have been sufficient in number and completeness to be of value. Some of this information is condensed from the former reports made during the progress of this investigation.

During the past year the lack of funds for this purpose has prevented the prosecution of the work except for a small portion of the year. The work done was so planned as to give an opportunity to further test the validity of the methods of analysis detailed in the last report, and at the same time to give as much information as possible regarding the effect of sewage pollution upon a water supply taken a short distance below the outlet of a sewer. All the work done has been in the line of the determination of the relative numbers of fecal bacteria in the water at different points in the river and at the same time the numbers of bacteria of all kinds in the samples examined. The series taken last year from the Mohawk river between Amsterdam and Schenectady has been duplicated at a different season of the year, and the results of last year are verified. This reach of the river is a series of rapids in comparatively contracted channels, with rather shallow pools and fairly rapid current between them. It receives sewage pollution from Amsterdam, a manufacturing city of about 20,000 population, and the city of Schenectady takes its water supply therefrom at a point about sixteen or seventeen miles below Amsterdam. It is evident from the results that, while there is a material reduction in the sewage pollution, there is certainly an appreciable amount remaining. The work was continued below Schenectady where the conditions are quite different, and the results show a corresponding difference. The sewage of Schenectady, a manufacturing city of nearly 25,000 population, is discharged into comparatively still water and flows with a slow current about three and one-half or four miles to a dam, with full opportunity, under ordinary stages of water, for sedimentation. The water then runs over a dam and through some miles of rapids where it is greatly spread out in a very shallow and wide stream over a rocky bed. A small number of short ponds occur at inter-

vals before the Cohoes Company's mill pond is reached, after a flow of sixteen or eighteen miles. The water supply of West Troy is taken near Dunsbeck's ferry, about nine miles from Schenectady, and that of Cohoes is taken from the Cohoes Company's canal, which leaves their pond about two miles above the city and above the falls. It is clear from a study of the results that the opportunity for sedimentation which is given exerts a great influence in diminishing the numbers of bacteria of all kinds in the water, and that the sedimentation and the following aeration remove the fecal bacteria completely at times, and nearly so at others in sixteen or eighteen miles of flow below Schenectady. This is not true in the flow of about the same distance from Amsterdam to Schenectady, where the opportunity for sedimentation is so much less and the aeration is not so thorough. The action of light is also much more favorable to the lower reach of the river. The conditions of the river as to additions of water from tributaries are nearly the same in the two reaches. Some results at comparatively high stages of water indicate that the more rapid current and consequently less opportunity for sedimentation have prevented the removal of bacteria below Schenectady as rapidly as under low water conditions.

The value of the method of study of pollution by means of the determination of the numbers of fecal bacteria seems to the gentlemen pursuing the investigation to be well established. It is fully described in the last annual report (the thirtieth). Special points remaining to be studied are high water conditions, the effect of such conditions as are found in the Hudson river below Troy and below Albany, both of which are quite different from those which have been studied, and the conditions of the water supplies of cities below West Troy, such as Albany, Greenbush, Hudson, Catskill, Poughkeepsie, as well as those on the Hudson above the mouth of the Mohawk, such as Waterford, Troy, Green Island. It is hoped that opportunity for these investigations will offer at an early day.

A long step in advance in methods of water analysis has been made in the elaboration of a method for determining, with

more definiteness than has heretofore been possible, the pollution of water by those substances which have the most serious effect upon its purity when considered from a sanitary standpoint.

## CHEMICAL WORK OF THE BOARD.

### Adulteration of Food and Drugs.

During the past year the collection and examination of samples, chiefly of drugs, has been actively continued. From July 1, 1891, when the chemical work of the Board was placed in the hands of the present director, to December 31, 1892, 4,398 samples of foods and drugs were collected, examined and reported upon, in addition to a large amount of other work done by order of the Board, and during 1893, there were collected 2,637 samples, and of these 2,434 were examined and reported upon during the year, making a total of 6,832 samples of foods and drugs collected and examined to date, being a monthly average of 228 samples, in addition to other work elsewhere reported. In the collection of these samples, the average cost of which including the traveling expenses of the collector has been put a fraction over nineteen cents, a large territory has been covered, but with our present appropriation, small places, especially if not easy of access, can not well be visited on account of the increased cost of collection from such places. The localities from which collections were made during the year were as follows: Albany, Amsterdam, Auburn, Binghamton, Canandaigua, Chatham, Clyde, Corning, Cortland, Elmira, Fishkill, Geneva, Gloversville, Hudson, Hornellsville, Ithaca, Johnstown, Lyons, Matteawan, Mount Vernon, Newark, Oneida, Owego, Palmyra, Peekskill, Poughkeepsie, Rochester, Rome, Schenectady, Seneca Falls, Sing Sing, Syracuse, Utica, Waterloo, Waverly, White Plains, and Yonkers. The samples collected included many of the most important pharmacopoeial preparations, such as tincture of iodine, compound solution of iodine, tincture of chloride of iron, creasote (for which crude carbolic acid is often sold), compound spirit of ether and sweet spirit of nitre (both of them valuable remedial agents but often of such inferior quality as to be almost valueless), stronger ether (used for

inhalation), aromatic sulphuric acid and the diluted acids (often much below and sometimes considerably above the pharmacopoeial strength), ammonia, etc. Reference to the appended report of the director will show that a very large number of samples fell below the officinal requirements, but it is to be borne in mind that such articles only as are known to be often of inferior strength or quality, or to be liable to deterioration through improper preparation or careless keeping, are selected for collection, and that articles which are known to be generally of satisfactory and uniform quality, or free from impurities or adulterants, are not collected. It is confidently believed that the work which has been done during past years has rectified many errors and abuses on the part of dispensing pharmacists, and given them much information which has generally been gratefully received, and that a very decided improvement in the quality of the drugs sold in this State has been effected by the work of the Board. Errors and abuses still exist, however, and Board will continue its endeavor to discover and correct these so far as possible. For this reason, and not because no improvement is being effected, the percentage of adulterated or otherwise inferior articles still continues large. If samples were collected at random, instead of being selected as stated, a very decided improvement would be seen from year to year. The work of the Board in this particular direction has continued to receive the hearty approval of those interested in the progress of pharmacy and the improvement of medicinal preparations. Some complaints from dealers have been received, but in no case has it been shown that any error had been made or that any just cause for complaint existed. All samples are numbered and preserved for a reasonable length of time in order that a second examination may be made if necessary.

During the past year fifty samples of water have been analyzed, the total number of samples examined since July 1, 1891, being 155. The samples examined during the past year were received from the following places: Amenia, Camden, Clyde, Frankfort, Glens Falls, Gowanda, Green Island, Hyde Park,

Jamestown, Killawog, Little Falls, Mount Vernon, Nichols, Northport, Potsdam, Round Lake, Schroon Lake, Stockton, Waterford and White Plains. Various samples of sewage and other miscellaneous articles have also been analyzed and reported upon from time to time.

The personnel of the chemical department remains the same as last year and it is believed that the work has been economically conducted. The director has reported monthly as heretofore and notifications have been promptly sent to all dealers whose articles have been found to be of inferior quality. The need of a State laboratory in fact as well as in name is again emphasized. With a roomy and well-equipped laboratory, larger corps and larger appropriation much more might be accomplished, and many important investigations entered upon, which, with the means and facilities at the disposal of the Board at present, can not possibly be undertaken. If the scope of the work can not be thus enlarged during the ensuing year, it is proposed to continue it upon much the same lines as heretofore, new territory being covered so far as possible, and a wider range of articles selected for examination. It is believed that the value of the work has been abundantly demonstrated, and the chief desire of the Board is to enlarge its scope so that all matters of a chemical nature which legitimately come before it may be capable of immediate and thorough investigation.

## EXAMINATION OF CATTLE FOR TUBERCULOSIS.

The work in this important branch of research has increased beyond all expectations. The chief inspector was relieved from duty, he being unable to afford the time necessary for the work. One inspector was also relieved, these two going out of service in May. In August two inspectors were put on, one for full duty, the other on half time. This latter had made special examinations when requested during the year, but was not regularly employed until the date stated above. In November another inspector was dropped, reducing the force to two, who gave their whole time, and one who only served two weeks out of the month. The amount of money available for the examina-

tion of tuberculous cattle was $10,000. From January 1, 1893, to January 1, 1894, the records show 20,310 cattle have been inspected, while the expenses of the inspectors and the cost of supplies, such as tags, thermometers, hypodermic syringes, wire, pinchers, tuberculin and salaries, has amounted to $9,625.45, an average cost of forty-seven cents for each animal examined. This is certainly not extravagant, and data are being gathered which will be of the greatest value in the future. The total killed for the disease out of all reported on, was 687, or about three per cent.

The needs of the service have constantly led to changes in method as more experience was gained in the work. The literature on the subject of bovine tuberculosis is comparatively meagre, and the using tuberculin, or "Koch's lymph," as a diagnostic agent by no means set forth with uniform results. From the experience gained this year, the value of this test is assured, and now facts are being collated bearing upon the use of tuberculin which will be valuable additions to the records of the efforts to eradicate consumption in cattle. In the early service, tuberculin was but little resorted to. Now almost every animal is injected. Physical examination alone will not lead to the diagnostication of incipient tuberculosis nor is it reliable in all cases where the disease is advanced. Animals which have been prize winners at State and county fairs, which to excellent judges appear not only perfectly healthy but in the pink of condition, have, by the use of this agent been condemned for tuberculosis and the necropsies confirm the diagnoses of the inspectors. And this finding the disease in apparently healthy animals, in which percussion and auscultation show nothing abnormal, where the utmost care in physical diagnosis is used, is not isolated or confined to a few cases. It occurs so frequently that the value of an agent which will detect the disease when other means fail is self-evident.

This conclusion has not been reached until a large number of tests could be compared with the post-mortem manifestations. Inspectors were instructed to conduct their examinations with care and to report in full, but no attempt was at first made to

prescribe set rules or regulations for the making of the tests, it being considered that comparisons between different methods taken with the results of the autopsies would point the way to the best mode of procedure. This has now been done, and general instructions issued the inspectors, after consultation with them and comparing the results obtained by each,. so that hereafter a uniform manner of examination and testing would be pursued by each. The autopsies have shown that a rise of two degrees (Fahrenheit) in temperature above the normal is suspicious, while from two degrees upwards tuberculosis would be almost invariably found. It is to be remarked that it is stated this rise almost always proved the presence of the pathological changes, but in some cases it failed although the temperature rose from two to four degrees, no evidence of infection was found after death. It was next to be determined what should be considered the normal temperature. In looking over the reports and taking into consideration the researches of others, the decision was reached to consider the normal temperature ranged from 99 degrees to 102 degrees Fahr., and to arrive at the natural temperature of any given animal, two readings were to be taken, one an hour before feeding, the other an hour and a half after, the mean being considered the normal.

The next important point was how much of tuberculin should be used for a test. Two of the inspectors had generally injected .25 c. c. of Koch's lymph, the other .125 c. c., and all obtained equally high temperatures. The question arose as to the efficacy of the lesser amount to detect incipient tuberculosis, and further experiments were directed to determine this point. It was considered for the present, until further experimentation could be collated, to use the quarter centimeter and if with this the temperature rose two degrees above the normal, the animal was to be considered suspicious and subject to quarantine and further testing. From two degrees and upwards the diagnosis to be that of tuberculosis and the animal a fit subject for slaughter. From the injection of tuberculin until the taking of temperatures ceased, eighteen hours were to elapse, the temperatures to be recorded from seven hours

after injection until the full time had passed and to be taken at least every two hours. During this time the animal is not to be fed or watered, so that no interference with the action of the test by process of digestion or the ingestion of cold water would be possible.

Complete reports of all stages of the examination were to be made and the details of the autopsy put on individual blanks, which, in addition, set forth the name of owner, the herd, breed, date and temperature record, with the diagnosis.

Bacteriological examinations of milk and butter have been made. In the former the tubercle bacillus has been found in one sample, but not in the other. In eight samples of butter taken at random from eighteen packages made from milk of cows, some of which were known to be tuberculous, no bacilli were found. Specimens of tissue are now being examined. These were taken, post mortem, from cows in which the tuberculin test had gone to high temperatures, but who did not present on autopsy any marked pathological change. The reports of the investigator are not yet received.

Statements have been made that more attention had been directed to Jersey cattle than to other breeds. This, however, is not the case, a glance at the detailed report of cattle examined showing no special kind are singled out for examination. It may be said the personal application of owners of Jersey cattle for the inspectors to examine their herds raises the number of this breed to a higher figure than other blooded stock, the native cattle alone being three times as numerous. While in the beginning the examination of cattle for tuberculosis was taken up by counties, a center being selected from which the inspector went to all cattle within a radius and then moved his quarters to another center, this plan had to be changed on account of the urgent applications received and also because isolated animals found diseased were stated to be from a breeding and disseminating herd at some other point in the State. It was obvious that with the small force of inspectors at command and the small amount of money allowed for the work, the greatest good could be accomplished by striking at those herds which were distributing cattle throughout the

State. At present there are more than fifty applications on file which have not been reached, some of them from cities, asking that examination of the milk supply be taken up. The amount of work accomplished speaks well for the faithfulness and energy of the inspectors, but it will require a larger appropriation to cope with this important work in order to make it as effective as the law intends. Attention is asked to the detailed reports appended.

## THE PUBLIC HEALTH LAW.

The Legislature of 1893 passed a bill received from the Statutory Revision Commission which codified all the health laws of the State. Some important amendments were added to article I, conferring power upon, and prescribing the duties of the State Board of Health. Experience has shown that at times the neglect of local authorities to appoint a duly constituted board of health for the municipality has seriously endangered the public health when an outbreak of contagious disease took place in the locality. To obviate this the law now provides the State Board has the power to enter into such a municipality, appoint a health officer for it and perform all the duties of a local board until such time as the authorities appoint a board in conformance with law. The municipality thus visited must bear all expense incurred. This is a most important amendment. Fortunately it has not yet been called into practice, but had necessity arisen the past summer, the protection given to the State by this necessary power would have been well evidenced.

Another amendment found necessary by the experience of the autumn of 1892, when cholera was in the bay of New York, caused the provision to be inserted that over lands taken by the State for sanitary purposes, the State Board should have sanitary control, removing them from the jurisdiction of the local board of the municipality in which such lands might be situated. This provision is most excellent as it relieves local boards of any responsibility for State actions and places the burden where it properly belongs.

Another change which will eventuate in much practical good is the provision introduced in Article II, requiring local health officers to report monthly such contagious diseases as the State Board may require, to report cases of consumption yearly, and arranging how such reports shall be paid for. This will give in time what has never before been obtained, and that is the approximate amount of contagious disease in the State, and enable attention to be directed to sanitary measures tending to lessen its prevalence. At present the amount of such diseases is chiefly gathered from the returns of deaths, cases which recovered rarely being reported, and in this way important measures tending to improve health have been not advised for want of knowledge that such were needed.

Respectfully submitted.

FLORINCE O. DONOHUE, M. D.,
*President.*
WILLIAM E. MILBANK, M. D.
WILLIAM T. JENKINS, M. D.,
*Health Officer Port of New York.*
CYRUS EDSON, M. D.
HENRY G. WOLCOTT, Esq.
JOHN EDWARDS, M. D.
MURRAY M. ADAMS, M. D.
THEODORE E. HANCOCK,
*Attorney-General.*
CAMPBELL W. ADAMS,
*State Engineer and Surveyor.*
LEWIS BALCH, M. D., Ph. D.,
*Secretary and Executive Officer.*

# APPENDIX.

## FOURTEENTH ANNUAL REPORT

OF THE

## STATE BOARD OF HEALTH.

# Report of the Executive and Finance Committee.

## Traveling and Necessary Expenses of Members.

| | | | |
|---|---|---|---|
| 1892. | | | |
| Oct. | 8. | Lewis Balch, expenses on official duty.... | $39 86 |
| | 11. | Maurice Perkins, expenses on official duty, | 37 07 |
| | 15. | John W. Whitbeck, expenses on official duty ..... | 98 70 |
| Nov. | 7. | Lewis Balch, expenses on official duty.... | 23 91 |
| | 12. | Maurice Perkins, expenses on official duty, | 22 36 |
| Dec. | 24. | Thomas S. Dawes, expenses on official duty, | 36 50 |
| 1893. | | | |
| Jan. | 5. | Maurice Perkins, expenses on official duty, | 369 11 |
| | 6. | Maurice Perkins, expenses on official duty, | 16 33 |
| | 12. | Lewis Balch, expenses on official duty.... | 34 65 |
| | 16. | Maurice Perkins, expenses on official duty, | 19 13 |
| | 18. | Lewis Balch, expenses on official duty.... | 20 65 |
| Feb. | 23. | Lewis Balch, expenses on official duty.... | 22 00 |
| | 23. | Maurice Perkins, expenses on official duty, | 21 13 |
| Mar. | 9. | New York Cab Company, hire of cabs used by committee of board investigating Newtown Creek nuisances ..... | 9 50 |
| | 22. | Lewis Balch, expenses on official duty.... | 33 15 |
| April | 3. | Lewis Balch, expenses on official duty.... | 24 95 |
| May | 1. | Lewis Balch, expenses on official duty... | 21 15 |
| | 1. | Maurice Perkins, expenses on official duty, | 26 84 |
| | 10. | W. E. Milbank, expenses on official duty, | 48 70 |
| | 25. | Thomas S. Dawes, expenses on official duty, | 24 00 |
| | 30. | Thomas Newbold, expenses on official duty, | 138 23 |
| June | 13. | Lewis Balch, expenses on official duty.... | 31 45 |
| July | 5. | Lewis Balch, expenses on official duty.... | 52 93 |
| | 18. | Maurice Perkins, expenses on official duty, | 4 18 |

| | | | |
|---|---|---|---|
| 1893. | | | |
| Aug. | 28. | Maurice Perkins, expenses on official duty, | $23 26 |
| | 28. | Dr. F. O. Donohue, expenses on official duty | 58 83 |
| | 28. | Dr. Cyrus Edson, expenses on official duty, | 36 00 |
| Sept. | 15. | Dr. Jno. W. Witbeck, expenses on official duty | 48 72 |
| | | | $1,343 29 |

## Salaries and Wages.

| | | | |
|---|---|---|---|
| 1892. | | | |
| Nov. | 1. | Salaries for October | $1,295 82 |
| Dec. | 1. | Salaries for November | 1,295 82 |
| 1893. | | | |
| Jan. | 1. | Salaries for December | 1,295 86 |
| Feb. | 1. | Salaries for January | 1,295 82 |
| Mar. | 1. | Salaries for February | 1,295 82 |
| April | 1. | Salaries for March | 1,295 86 |
| May | 1. | Salaries for April | 1,295 82 |
| June | 1. | Salaries for May | 1,295 82 |
| July | 1. | Salaries for June | 1,295 84 |
| | 1. | Dr. Balch on increase of salary to July first, | 145 15 |
| Aug. | 1. | Salaries for July | 1,379 16 |
| Sept. | 1. | Salaries for August | 1,295 85 |
| Oct. | 1. | Salaries for September (balance of September charged in October) | 417 50 |
| | | | $14,900 14 |

## Special Expert and Temporary Service.

| | | | |
|---|---|---|---|
| 1892. | | | |
| Oct. | 1. | James H. Stoller, bacteriological work... | $193 34 |
| | 7. | Alice Kane, sorting | 72 00 |
| | 11. | Arthur Hollick, inspecting | 36 35 |
| | 11. | Thomas F. Greely, sorting certificates.... | 39 60 |
| | 11. | Chas. C. Brown, investigating Mohawk and Hudson rivers | 258 78 |
| | 29. | Thomas F. Greely, sorting certificates.... | 102 00 |

| | | | |
|---|---|---|---|
| 1892. | | | |
| Nov. | 1. | Alice Kane, indexing | $96 00 |
| | 5. | James H. Stoller, bacteriological work | 95 05 |
| | 7. | H. E. Webster, rent of biological laboratory at Union College | 180 00 |
| | 7. | F. C. Curtis, investigating typhoid fever | 34 42 |
| | 30. | Thomas F. Greely, sorting certificates | 89 85 |
| | 30. | Alice Kane, sorting and indexing | 108 00 |
| | 30. | M. Libbie Edwards, typewriting | 30 18 |
| Dec. | 23. | Thomas F. Greely, sorting certificates | 75 00 |
| | 24. | Chas. C. Brown, engineering | 51 81 |
| | 24. | Chas. C. Brown, engineering | 168 08 |
| | 24. | Arthur Hollick, inspecting | 32 95 |
| | 24. | Chas. C. Brown, investigating Hudson and Mohawk rivers | 103 13 |
| | 24. | J. H. Stoller, investigating Hudson and Mohawk rivers | 78 03 |
| | 28. | John Bogart, engineering | 317 03 |
| 1893. | | | |
| Jan. | 1. | Thomas F. Greeley, sorting certificates | 30 00 |
| | 4. | Julius Haas, extra registering | 75 00 |
| | 4. | Thomas S. Jones, extra registering | 85 00 |
| | 4. | Alice Kane, sorting | 36 00 |
| | 5. | Chas. N. Smith, extra registering | 41 25 |
| | 6. | Anna Louise Mattimore, indexing | 72 00 |
| | 6. | James H. Stoller, investigating Hudson and Mohawk rivers | 69 43 |
| | 10. | Chas. C. Brown, engineering | 91 56 |
| | 12. | F. C. Curtis, investigating supposed case of small-pox | 10 20 |
| | 16. | Chas. C. Brown, investigating Hudson and Mohawk rivers | 77 50 |
| Feb. | 1. | Ida Lindsay, indexing | 53 52 |
| | 1. | Thomas S. Jones, extra registering | 53 00 |
| | 1. | Julius H. Haas, extra registering | 47 00 |
| | 1. | Thomas F. Greely, sorting certificates | 109 20 |
| | 1. | Alice Kane, indexing and sorting | 120 00 |

| 1893. | | |
|---|---|---|
| Feb. | 3. Chas. N. Smith, extra registering..... | $36 25 |
| | 8. James H. Stoller, investigating Hudson and Mohawk rivers ..... | 72 11 |
| | 23. Charles C. Brown, investigating Hudson and Mohawk rivers ..... | 123 61 |
| | 23. Rodgers & Ruso, stenographic services... | 149 67 |
| Mar. | 2. Thomas F. Greely, sorting certificates.... | 85 00 |
| | 3. Ida Lindsay, sorting and indexing..... | 65 04 |
| | 3. Alice Kane, sorting and indexing..... | 65 04 |
| | 9. Arthur Hollick, inspecting ..... | 10 95 |
| | 9. F. C. Curtis, investigating small-pox..... | 30 42 |
| | 15. Charles C. Brown, engineering..... | 154 50 |
| | 22. Ida Lindsay, sorting, indexing and typewriting ..... | 71 28 |
| | 30. Alice Kane, sorting and indexing..... | 65 04 |
| | 31. Thomas F. Greely, sorting certificates.... | 85 00 |
| April | 17. M. Libbie Edwards, sorting cards and indexing ..... | 240 00 |
| May | 1. Ida Lindsay, indexing ..... | 65 28 |
| | 1. Thomas F. Greely, sorting certificates... | 85 00 |
| | 1. Alice Kane, indexing ..... | 65 28 |
| | 1. William P. Mason, collecting and analyzing samples Hudson and Mohawk river water ..... | 175 00 |
| | 10. Anna L. Mattimore, work on annual report, | 54 15 |
| | 10. Anna L. Mattimore, sorting and indexing, | 113 44 |
| | 25. William H. Bergtold, investigating diphtheria at Stockton ..... | 58 92 |
| | 25. Walter Melius, making blue prints..... | 9 00 |
| | 25. F. J. Lawrence, preparing exhibit of board for World's Fair ..... | 61 88 |
| June | 1. Thomas F. Greely, sorting certificates.... | 85 00 |
| | 1. Alice Kane, sorting and indexing..... | 68 64 |
| | 24. Julius H. Haas, expenses serving subpoenas upon witnesses at Flatlands, Kings county, for sewer investigation, | 11 44 |
| | 29. Alice Kane, sorting and indexing..... | 65 04 |

| | | | |
|---|---|---|---|
| 1893. | | | |
| July | 3. | Thomas F. Greely, sorting certificates.... | $85 00 |
| | 10. | E. G. Crans, stenographic services..... | 86 94 |
| | 10. | John Bogart, C. E., engineering..... | 529 69 |
| | 20. | Ida H. Lindsay, sorting and indexing.... | 17 72 |
| | 27. | Chas. C. Brown, investigation of water supplies and work on annual report.... | 176 91 |
| | 28. | Thomas F. Greely, sorting certificates.... | 85 00 |
| | 31. | Alice Kane, sorting and indexing..... | 65 20 |
| | 31. | Ida H. Lindsay, indexing and typewriting, | 64 32 |
| Aug. | 28. | Ida H. Lindsay, indexing ..... | 66 00 |
| | 28. | John Bogart, services as consulting engineer at Carthage, Fort Plain, Canastota, Camden, Haverstraw, White Plains, Camillus, Niagara Falls, Flatbush, West Winfield, Geneva, Brewsters and Cazenovia ..... | 1,051 52 |
| | 30. | Thomas F. Greely, sorting certificates.... | 95 00 |
| | 30. | Alice Kane, indexing..... | 61 76 |
| Sept. | 15. | Anna L. Mattimore, indexing..... | 54 56 |
| | 21. | Jacob Goldberg, M. D., services as assistant inspector at Buffalo..... | 100 00 |
| | | | $7,843 86 |

## Printing and Stationery.

| | | | |
|---|---|---|---|
| 1892. | | | |
| Oct. | 1. | Charles Van Benthuysen & Sons, registry books, bulletin blanks, cards, note books for tuberculosis inspectors..... | $548 36 |
| Nov. | 16. | Amasa J. Parker (receiver for Weed, Parsons & Co.), for printing rosters, bulletins, circulars, pamphlets, &c..... | 2,159 72 |
| | 16. | Fergus Halpen, printing certificates, envelopes, wrappers, &c ..... | 58 00 |
| Dec. | 24. | Amasa J. Parker (receiver for Weed, Parsons & Co.), for making two account books, printing bulletins, pamphlets, &c., | 134 48 |

1893.

| | | |
|---|---|---|
| Jan. | 4. Frederick C. Manning, ink eradicator and steel plate printing | $14 00 |
| | 9. Amasa J. Parker (receiver for Weed, Parsons & Co.), paper pads, bulletins, rules and regulations for cattle inspectors, &c | 154 20 |
| | 16. Leonard Publishing Co., ribbons, rubber strips, &c., for typewriter | 5 80 |
| Feb. | 8. Amasa J. Parker (receiver for Weed, Parsons & Co.), printing cards and orders to inspectors for killing cattle | 8 90 |
| May | 10. Amasa J. Parker (receiver for Weed, Parsons & Co.), binding bulletins for year 1892 | 18 00 |
| | 10. The Argus Company, printing bulletins and blanks | 183 00 |
| | 25. Fergus Halpin, printing envelopes, wrappers, affidavits, &c | 72 25 |
| June | 5. Frederick C. Manning, steel plate printing and balance due | 16 00 |
| | 24. Stuart G. Speir, one Remington typewriter and rental of typewriter two days | 96 00 |
| July | 7. Frederick C. Manning, steel plate printing, | 15 00 |
| | 18. James B. Lyon, for printing preliminary reports of Board, for 1892 and 1893 | 61 00 |
| July | 20. The Argus Company, printing and mailing bulletins, and printing blanks and circulars | 153 75 |
| Aug. | 28. The Argus Company, printing bulletin, circulars and blanks | 156 64 |
| Sept. | 15. The Argus Company, printing circulars, bulletins and blanks | 132 75 |
| Sept. | 23. J. J. Jones, rubber stamp and pad | 4 25 |
| | | $3,992 10 |

## Telegraph and Telephone.

| | | | |
|---|---|---|---|
| 1892. | | | |
| Sept. | 30. | Hudson River Telephone Co., for September | $6 85 |
| Oct. | 1. | Western Union Telegraph Co., for September | 23 99 |
| Nov. | 3. | Hudson River Telephone Co., for October, | 5 15 |
| | 3. | Western Union Telegraph Co., for October, | 8 67 |
| Dec. | 24. | Western Union Telegraph Co., for November | 3 71 |
| | 24. | Hudson River Telephone Co., for November | 5 40 |
| 1893. | | | |
| Jan. | 4. | Hudson River Telephone Co, for December, | 5 75 |
| | 6. | Western Union Telegraph Co., for December | 2 46 |
| Feb. | 8. | Western Union Telegraph Co., for January, | 6 28 |
| | 15. | Hudson River Telephone Co., for January, | 5 90 |
| Mar. | 9. | Hudson River Telephone Co., for February, | 8 65 |
| | 9. | Western Union Telegraph Co., for February, | 6 42 |
| April | 6. | Hudson River Telephone Co., for March.. | 9 99 |
| | 6. | Western Union Telegraph Co., for March, | 9 22 |
| May | 4. | Hudson River Telephone Co., for April.... | 14 29 |
| | 10. | Western Union Telegraph Co., for April, | 9 73 |
| June | 5. | Western Union Telegraph Co., for May... | 4 80 |
| | 5. | Hudson River Telephone Co., for May.... | 8 34 |
| July | 6. | Hudson River Telephone Co., for June.... | 8 99 |
| | 7. | Western Union Telegraph Co., for June .. | 9 01 |
| Aug. | 28. | Western Union Telegraph Co., for July... | 12 87 |
| | 28. | Hudson River Telephone Co., for July .... | 10 34 |
| Sept. | 15. | Hudson River Telephone Co., for August.. | 8 59 |
| | 15. | Western Union Telegraph Co., for August.. | 7 35 |
| | | | $202 75 |

## Library, Maps and Charts.

| | | | |
|---|---|---|---|
| 1892. | | | |
| Nov. | 7. | B. Westerman & Co., German scientific books and magazines | $16 15 |

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|---|---|---|---|
| 1892. | | | |
| Dec. | 28. | Engineering News Publishing Co., subscription for 1893 ..... | $5 |
| | 28. | Journal of Comparative Medicine and Veterinary Archives, subscription for 1893.. | 3 |
| 1893. | | | |
| Jan. | 16. | The Sanitarian, subscription for 1893 .... | 4 |
| | 27. | F. J. Lawrence, mounting, coloring and lettering map showing sanitary districts of New York and making three signs of removal ..... | 10 |
| Feb. | 1. | B. Westermann & Co., subscriptions to Analyst, Sanitary Record, Revue d'Hygiene and German periodical ..... | 13 |
| | 8. | Walter Melius, making three blue prints of maps of Nyack water supply ..... | 2 |
| | 15. | B. Quinn, Official Railway Guide for 1893, | 5 |
| Mar. | 9. | Engineering Record, subscription for 1893, | 5 |
| May | 24. | R. L. Polk & Co., one copy U. S. Medical and Surgical Register and one copy N. Y. Medical and Surgical Register ..... | 10 |
| June | 24. | Sampson, Murdock & Co., one copy of Albany Directory ..... | 3 |
| | | | $76 |

## Furniture.

| | | | |
|---|---|---|---|
| 1892. | | | |
| Nov. | 1. | Leonard Publishing Company, Universal Hammond typewriter ..... | $7( |
| 1893. | | | |
| Jan. | 16. | Leonard Publishing Company, one roll top typewriter desk (oak) ..... | 5( |
| Mar. | 10. | Office Specialty Manufacturing Company, making and furnishing one twelve apartment document cabinet ..... | 4[illegible] |
| | | | $16[illegible] |

## Petty Cash.

| | | |
|---|---|---|
| 92. | | |
| 30. | Lang Stamp Works, one dater | $8 00 |
| 7. | Lang Stamp Works, one rubber stamp | 50 |
| 93. | | |
| 18. | The Leonard Publishing Company, stop arm for typewriting machine, and one blue record ribbon | 1 50 |
| 18. | Van Heusen, Charles & Co., one portable lamp | 6 00 |
| 31. | Stuart G. Speir, rental of Remington typewriter from February 23d to March 23, 1893 | 6 00 |
| 10. | Leonard Publishing Company, two record ribbons for typewriter | 2 00 |
| 15. | James D. Walsh, county clerk, for administering and filing oath of T. S. Jones as a notary public | 5 00 |
| | | $29 00 |

## Tuberculosis.

| | | |
|---|---|---|
| 92. | | |
| 25. | Cooper Curtice, salary and expenses | $239 85 |
| 1. | James Law, services and expenses | 29 65 |
| 12. | Moore Bros., inspection of cattle | 62 42 |
| 16. | Cooper Curtice, salary and expenses | 273 63 |
| 16. | Austin Peters, services in inspection of cattle | 204 48 |
| 24. | Cooper Curtice, salary and expenses | 258 07 |
| 24. | Austin Peters, services as inspector | 176 65 |
| 24. | James Law, services and expenses | 63 93 |
| 24. | James Law, services and expenses | 36 50 |
| 93. | | |
| 6. | John Faust, services and expenses | 28 80 |
| 10. | American Railway Supply Co., tags and plyers | 17 00 |
| 16. | Chas. A. Gleason, services as deputy sheriff, | 17 00 |
| 16. | Cooper Curtice, salary and expenses | 152 00 |
| 16. | Austin Peters, services as chief inspector | 334 41 |

| 1893. | | |
|---|---|---|
| Jan. | 23. Cooper Curtice, salary and expenses..... | $115 17 |
| | 25. William S. Hallock, services as deputy sheriff ..... | 8 00 |
| Feb. | 6. Cooper Curtice, salary and expenses..... | 131 78 |
| | 23. Austin Peters, services and expenses..... | 277 62 |
| | 24. R. A. McLean, salary and expenses..... | 270 60 |
| Mar. | 3. Cooper Curtice, salary and expenses..... | 223 64 |
| | 18. G. W. Gilbert, salary and expenses..... | 213 55 |
| | 25. Cooper Curtice, services and expenses.... | 196 90 |
| April | 6. James Law, services and expenses..... | 258 95 |
| | 12. Austin Peters, services and expenses as chief inspector ..... | 207 31 |
| | 12. Austin Peters, services and expenses as chief inspector ..... | 357 25 |
| | 20. Cooper Curtice, services and expenses.... | 210 90 |
| | 20. G. W. Gilbert, services and expenses..... | 301 70 |
| May | 25. G. W. Gilbert, services and expenses..... | 306 65 |
| | 29. Cooper Curtice, salary as inspector..... | 150 00 |
| | 29. Richard Kny & Co., tuberculin..... | 36 00 |
| June | 7. R. A. McLean, services and expenses..... | 371 69 |
| | 24. Cooper Curtice, services and expenses.... | 170 79 |
| July | 20. Cooper Curtice, services and expenses.... | 112 29 |
| | 20. G. W. Gilbert, services and expenses..... | 159 54 |
| | 20. Austin Peters, services and expenses as chief inspector ..... | 107 33 |
| | 20. Richard Kny & Co., tuberculin and postage, | 9 13 |
| Aug. | 21. Cooper Curtice, services and expenses.... | 217 35 |
| | 21. G. W. Gilbert, services and expenses..... | 158 25 |
| Sept. | 15. American Railway Supply Co., brass checks, ..... | 20 00 |
| | 15. Schulze-Berge & Koechl, tuberculin..... | 40 25 |
| | 15. Cooper Curtice, services and expenses.... | 291 66 |
| | 15. John Faust, services and expenses..... | 200 00 |
| | 21. G. W. Gilbert, services and expenses..... | 303 25 |
| | | $7,321 94 |

## Food and Drugs.

| | | |
|---|---|---|
| 1892. | | |
| t. | 7. Willis G. Tucker, compensation and expenses | $332 05 |
| ;. | 4. Willis G. Tucker, compensation and expenses | 273 52 |
| . | 24. Willis G. Tucker, compensation, expenses and cost of apparatus | 405 64 |
| 393. | | |
| | 4. Willis G. Tucker, compensation and expenses | 319 78 |
| | 8. Willis G. Tucker, compensation and expenses | 272 02 |
| | 3. Willis G. Tucker, compensation and expenses | 274 39 |
| 1 | 6. Willis G. Tucker, compensation and expenses | 394 35 |
| | 1. B. Westermann & Co., second volume Koenig's Chemistry of Adulterations | 9 00 |
| | 4. Willis G. Tucker, compensation and expenses | 271 78 |
| | 5. Willis G. Tucker, compensation and expenses | 399 80 |
| | 5. Willis G. Tucker, compensation and expenses | 268 33 |
| | 28. B. Westerman & Co., periodicals | 3 05 |
| | 28. B. Westerman & Co., magazine | 2 00 |
| | 28. McClure, Walker & Gibson, aether petrolei | 7 00 |
| | 28. Willis G. Tucker, compensation and expenses | 369 11 |
| | 15. Willis G. Tucker, compensation and expenses | 342 67 |
| | | $3,944 49 |

# PLANS FOR SYSTEMS

OF

# SEWERAGE AND SEWER DISPOSAL.

# Plans for Systems of Sewerage and Sewage Disposal.

Plans for systems of sewers, sewage disposal, &c., have been received from and approved for several towns, villages and cities as follows: Plans for a system of sewers at Camden, Cazenovia, Haverstraw, Herkimer, Ilion, Irvington, Lake Placid and Sidney; plans, including disposal works, at Echota and Fort Plain; disposal works at Cobleskill and Mount Vernon; change of plans, Cobleskill, Ilion, Irvington and Niagara Falls, and plans for a special drain at Mount Vernon.

As has been the custom in previous reports, the publication of the specifications accompanying the several plans named have been omitted in this.

## FORT PLAIN.

The Board received plans and specifications for a system of sewers and separate plans for a disposal works for the village of Fort Plain and the plans for sewers were approved January eleventh. Prior to approval the plans, &c., were submitted to Consulting Engineer John Bogart, who recommended that the plans be approved subject to the construction of a disposal works at such time as the same shall be required by the Board. Mr. Bogart's report, a description of the proposed system of sewers and disposal works by Engineer D. C. Smith, and a com-

munication from Prof. Charles C. Brown relative to the subject matter are given herewith and maps and plans follow:

*January* 10, 1893.

Dr. LEWIS BALCH, *Secretary State Board of Health:*

Sir.—I beg to report that, in accordance with your instructions, I have examined the plans for the sewerage of Fort Plain, Montgomery county, N. Y. I have also visited Fort Plain in company with Mr. De Witt C. Smith, the engineer who has made the plans for this sewerage, Mr. Charles C. Brown being consulting engineer.

Fort Plain is situated upon the west bank of the Mohawk river and the built-up portion of the village is divided by the Erie canal and also by Otsequago creek. The West Shore railway runs near to the Mohawk river, the land between the railway and the river being low. West of the railroad and between it and the canal the ground is quite level but sufficiently above the river to insure good drainage, except possibly at times of very high flood. West of the canal the ground rises abruptly so that the flow in the pipes of the sewerage system will be very rapid.

This description applies to the parts of the village both north and south of Otsequago creek, with the exception of one street, Hancock street, which will require sewerage entirely separate from the general system. The system proposed is a separate system and, in my opinion, is the proper one for this place. The size of the pipes shown upon the plans and the grades (when they shall be somewhat modified in accordance with suggestions made to the engineer in charge) are proper and acceptable. (The system must also be somewhat extended beyond the bounds shown upon the plans submitted; this, however, the engineer has agreed to do and to submit a revised plan immediately.)

In my opinion, the plans, as thus modified, will provide a proper system of sewerage for this locality and I recommend their adoption.

The remaining question is as to whether the sewage should be delivered directly into the Mohawk river, or whether some plan of treatment should be adopted so as to prevent pollution of the river by the introduction of crude sewage.

Fort Plain is forty-one miles above Schenectady, which is the first point below Fort Plain, as I am informed, from which the water of the Mohawk is taken for potable uses. I am also informed that the city of Amsterdam, which is twenty-five miles below Fort Plain and sixteen miles above Schenectady, discharges its sewage directly into the Mohawk without treatment. Also, that there is discharged at Fonda into the Mohawk, fifteen miles below Fort Plain, the sewage of certain villages lying on the tributary of the river east of that village. I am also informed that both Little Falls and Utica above Fort Plain discharge their sewage into the river without treatment.

Under these circumstances, I have some doubt as to the propriety of recommending that the Board of Health should insist upon a treatment of the sewage of this village, which shows a disposition to adopt a system of sewerage, if it can possibly be constructed without too great cost. On the other hand, the methods of treatment which would be suitable at Fort Plain are not very expensive. Tanks for sedimentation and apparatus for chemical treatment can be located near the river and the grades are such that the sewage could be treated without pumping, except at very high stages of water. These do not occur frequently and the volume of water is then so great that for the few days of their continuance there would probably be no injury from the necessary direct discharge into the river. Alternative plans are presented by the engineer, the one including and the other not including disposal of the sewage. If it is practicable to approve the plan with a proviso that the works for disposal should be constructed whenever directed by the Board, I would recommend that course, and I ask the instruction of the Board on this point.

Very respectfully, your obedient servant.

JOHN BOGART,

*Consulting Engineer State Board of Health.*

OFFICE OF CITY ENGINEER, 118½ WALL STREET,
SCHENECTADY, N. Y., *January* 31, 1893.

*To the Sewer Commissioners of the Village of Fort Plain, Montgomery County, N. Y.:*

Gentlemen.—I submit the following report on a system of sewers for your village, plans of which are presented herewith. The red lines on the map show the location and direction of the sewers. Low-water mark in the river is taken as a datum and all elevations are calculated from that plane.

The area included within the corporation limits of Fort Plain is about two square miles, more than one-half of which is used as farming land. The population in 1890 was 2,864.

The design is for a "separate system of sewers" for the entire village, that is sewerage for all the streets thus far laid out. It will probably be many years before the whole system need be constructed, though a portion of it may be built now and the sewers extended as required.

On the northerly end of Willet street the sewer is only carried as far as the knitting mill, beyond that point the grade of the street is so low that the pipe would come to the surface. This portion of the street can not be sewered into this system without filling in. If the street be regraded as indicated by the dotted line on the profile the sewer may be continued.

From a careful study of the topography of the village it is apparent that a combined system of sewers is not required. The Otsquago creek running nearly through the center is easily reached by short lines of ditches thus affording drainage for a large section. In that portion sloping toward the river the surface water is taken through a culvert under the canal, thence through an open ditch to the river. In this section there is some trouble from washouts on the steep grades during heavy showers, but the additional facilities that may be required here for disposing of the storm waters can be constructed for a fraction of the cost of a combined system of sewers. Between the canal and the railroad the rain water readily disappears through the very porous subsoil. Hence as a combined system is not

needed, I have not deemed it necessary to make an estimate as to the comparative cost.

It will be observed that all the sewage excepting that from Hancock street is brought to one outlet which passes under the canal about 150 feet north of Lydius street, thence through Crouse street to the river. The outlet is to be of twenty-inch pipe; that portion under the canal and railroad to be of cast-iron; fifteen-inch pipe will be used on Canal street from Prospect to Main, and on Main street from Canal to a point about 200 feet west of South street; six-inch pipe on Centre, South, Spring, Cross, Marten and Wagner streets, all the balance will be eight-inch.

The profile shows that deep trenching can happily be avoided, and the grades obtained are satisfactory. Reid street presents the only difficulty, where, by following the street, a deep cut through rock will be necessary, to avoid this a line of pipe can be laid from the Reid street bridge along the north bank of the creek to the dam, thence along the south side of the raceway and connect with the Main street sewer as shown on the plan and lay a shallow sewer for house connections in the street conforming to its grade, and connect with this line near Abbotts Row. Cast-iron pipe will be used where the line crosses the creek.

The sewage from Kellogg street, Freybush road and Prospect Hill is to be taken through an iron pipe suspended from the bridge at the red mill, thence into the Main street sewer. This pipe is to be covered so as to protect it from the frost.

Prospect Hill is the only section of the village at present favored with a sewer system, these sewers discharge into the creek about 400 feet west of the canal; this in time may become objectionable to the people living on the east side of the canal from the precipitation of sewage along the banks of the creek just below the aqueduct. These sewers should be connected with the main system by a pipe leading from the foot of Kellogg street to Clinton avenue. If the owners will permit they may be extended as shown on the plan.

The Hancock street sewer can not be connected with the main system as the grade of the southerly portion of the street is lower than that of any other street in the village. The outlet for this sewer will cross the canal near the southerly boundary line of the corporation.

The dotted lines on the map indicate some proposed streets, but as these are at present inclosed and under cultivation I have not shown sewers upon them.

An automatic flush-tank is to be placed at the head of all the principal branches.

The flush-tanks may be of any approved patent that the commissioners may select, each tank to have a capacity of at least 150 gallons, and to discharge once in twenty-four hours, excepting those on Willet and Canal streets, where the grade is but three-tenths of a foot in 100 feet, they should discharge twice in twenty-four hours. It may be well to state here that I have endeavored to make the minimum grade for eight-inch sewers five-tenths of a foot in 100 feet. Willet and Canal streets are the only ones falling below this standard.

If it should be determined to construct only a portion of the system at present a flush-tank should be placed at the end of each branch, and when the sewers are continued the flushing apparatus can be moved to the extremities and the tanks converted into man-holes.

Man-holes and lamp-holes are placed at changes of grade or direction in the sewer, or at intervals of four or five hundred feet, where the grade is continuous, thus affording easy access to the sewer for inspection or removing any obstructions that may occur from improper materials being admitted into them.

I have prepared the following estimate on the cost of the sewers, based upon the present price of labor and materials, and believe it will approximate very closely to the actual cost:

| | |
|---|---|
| One thousand lineal feet, twenty-inch vitrified sewer, at two dollars | $2,000 00 |
| Four hundred and eighty lineal feet, twenty-inch cast-iron sewer, at four dollars | 1,920 00 |

| | |
|---|---|
| Two thousand three hundred lineal feet, twenty-inch vitrified sewer, at one dollar | $2,300 00 |
| Thirty-eight thousand lineal feet, eight-inch vitrified sewer, at fifty cents | 19,000 00 |
| One thousand lineal feet, eight-inch cast-iron sewer, at one dollar | 1,000 00 |
| Three thousand lineal feet, six-inch vitrified sewer, at forty cents | 1,200 00 |
| Seventy man-holes, thirty dollars | 2,100 00 |
| Sixty lamp-holes, ten dollars | 600 00 |
| Twenty-two flush-tanks, fifty-five dollars | 1,210 00 |
| Engineering and superintendence | 3,500 00 |
| Contingent | 1,000 00 |
| | $35,830 00 |

## Sewage Disposal.

The system is designed to discharge into the river. A regulation of the State Board of Health makes it necessary to include also some plan for purifying the crude sewage before turning it into the stream.

I have prepared the accompanying plan which I believe to be best adapted for your village.

The method of purification is by chemical precipitation, the plant is located on the outlet between the West Shore railroad and river, and to be protected by an embankment raised above high-water mark. An examination of the plans will explain the manner of operation. The gravity system is employed, and the plant will work until the water in the river is five feet above low-water mark, when the gates leading into and out of the tanks should be closed and the sewage discharged through a by-pass directly into the stream. The outlet enters the river about 400 feet above a rift, which has a fall of two feet, hence it would require a rise in the river of nearly seven feet to affect the working of the plant. This rarely occurs, except during the

spring freshets, when the condition of the water is such that the amount of raw sewage admitted during that time would make no perceptible addition to the pollution.

## General Specifications for Disposal Works.

The disposal works shall be constructed as shown on the plan. The walls of the main building shall be of rubble-stone masonry laid in cement mortar, and plastered on the inside with Portland cement mortar. The roof shall be of timber as represented in the drawings, with double sheeting and covered with steel roofing laid over roofing paper. The floor of the tanks to be of concrete and plastered with Portland cement mortar. The gable ends shall be inclosed with studing covered on the outside with novelty siding, and on the inside with matched sheeting.

The engine-house shall have rubble-stone masonry, foundation brick walls, timber-trussed roof, covered with steel roofing. The floor to be of concrete. All exposed woodwork and roofing to be painted with two coats of oil paint. The mixing and distributing channels to be of brickwork laid in cement mortar and plastered on the inside with Portland cement mortar. The walls of the sludge well to be of twelve-inch brick, the bottom of concrete.

The effluent pipe from the effluent well to the by-pass to be of twenty-inch vitrified sewer pipe. The sludge pipe to be eight inch, and the draw-off pipe to be four-inch cast-iron pipe.

The by-pass to be of twenty-inch cast-iron pipe, the iron pipe to extend through the embankment.

The embankment to have a core of puddle clay.

The machinery to consist of a fifteen-horse-power engine and boiler, chemical mixers, sludge pump, and sludge press. The chemicals to be used are lime and sulphate of alumina.

All the work is to be done in accordance with the detail drawings to be furnished by the engineer.

Respectfully submitted.

DEWITT C. SMITH,
*Civil Engineer.*

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *November* 28, 1892.

DEWITT C. SMITH, *Civil Engineer Fort Plain Sewer Commissioners, Schenectady, N. Y.:*

Dear Sir.—I have carefully examined your plans for the sewerage of the village of Fort Plain and have checked the computations of sizes, the determinations of grades, locations of man-holes, lamp-holes and flush-tanks, &c., and believe that you have worked out a satisfactory solution of the problem presented. The principal points of difficulty in the problem are the portion of the sewer along the creek and the outlet. I think that in each case you have determined upon the cheapest method of doing the work thoroughly.

There is no question of the need of sewers in the village. This is shown by the large proportion of zymotic diseases occurring in town and by the polluted condition of such wells as have been subjected to analysis. This pollution arises from the discharge of cesspools and privy pits into a porous soil, which is underlaid by an impervious stratum above which the wells derive their supply. The direction of flow of a considerable portion of this polluting matter, accompanying as it does the rain water seeping through the soil, is towards the creek on the one side of the village and towards the river on the other. Near the creek the wells are shallower and even more subject to pollution than farther up the hill. I think these facts, together with the large amount of pollution discharged directly into the creek, account for the prevalence in a marked degree of the diseases mentioned in the vicinity of the creek. This matter discharges directly into the creek comes from the milk factory, the sewer from the Clinton Liberal Institute, especially, the sewer from Prospect Hill and the piles of garbage deposited on the banks. All of these but the last can be taken care of by the sewers and their baneful influence removed from the stream. The garbage question should be taken into immediate consideration by the Board of Health and the present great nuisances committed by the deposit of such material along the bank should be abated at

once and their commission in the future prohibited by strict regulations. The effect of the Prospect Hill sewer upon the stream is quite obscured by the greater nuisances on the banks.

The grades are ample with one or two necessary exceptions, these latter not being quite as low as the minimum allowable and being provided with flush-tanks which will keep them clear. The sizes are ample to take care of the sewage from the village for many years and will permit the admission of roof-water from the business part of town. This is apparently the only part requiring any special attention in this regard. The vast increase in sizes of sewers necessary to take care of storm water from the surface or even from all the roofs would so greatly increase the cost, and with no corresponding benefit, as to make the construction of the sewers beyond the ability of the village in all probability.

The question of sewage disposal is an important one, especially as the Mohawk river is used below Fort Plain as a source of supply of water for several cities and villages. During the last two years I have been engaged upon a thorough study of the pollution of the Mohawk river for the State Board of Health. A report upon a portion of the work is embodied in the last annual report which is not yet out of the printer's hands. I may be permitted, perhaps, as this report will probably go with the other papers in the case to the State Board, to make the following abstract from a recent study of the information contained in that report for another case, making the application to the village of Fort Plain. Most of the large pollution arising from the discharge of Utica's sewage into the stream has disappeared before Ilion is reached. Farther down the river is Little Falls, which produces a marked effect upon the condition of the river, extending five or six miles down stream until East Canada creek is reached. St. Johnsville shows a perceptible increase of pollution, but no sample was taken which would show the increase due to Fort Plain. Whatever it may be it had disappeared before Schoharie creek was reached. It is probable that the insertion of the sewers would materially increase the pollution at Fort Plain, but it is also probable that

the effects of this pollution would largely disappear before Schoharie creek is passed. Amsterdam is the next place showing great additional pollution and the river is not used as the source of a water supply until Schenectady is reached. These data thus referred to are the number of bacteria contained in a definite volume of water. The relative amounts of pollution in the course of a river are quite clearly indicated by these results. Later work differentiates to a considerable extent the sewage bacteria from the ordinary kinds, but it was not attempted in the above results. It seems safe to say with our present information that the village of Fort Plain will not seriously increase the pollution of the water at Schenectady above that due to Amsterdam, but that whenever those places are required to reduce the ratio of pollution the village of Fort Plain should be required to do its share.

Should you be unable to secure an approval of your plans by the State Board of Health without plans for sewage purification, it will be possible to put in chemical works which will produce the necessary quality of effluent on your outlet by placing the tanks below the level of that outlet and permitting the clarified effluent to overflow into the river. It will be necessary to pump out the tanks whenever they are to be cleaned, and to pump the entire amount of clarified effluent during the few days in the year when the river is more than four feet above low water, unless the sewage can be permitted to run directly into the river during such times.

Respectfully submitted.

CHAS. C. BROWN,
*Consulting Engineer.*

## ILION.

Plans and specifications for a complete system of sewers and sewage disposal works were received from the sewer commissioners of the village of Ilion in the latter part of the year 1892, but were not acted upon by the Board until January of the

current year. Later, certain changes were received and approved by the Board.

The several reports made to the Board by Consulting Engineer Charles C. Brown, that are printed herewith, gives in detail the features of each case. Descriptive reports on the sewer system and disposal works are also printed, and the maps and plans, showing original plan and various changes, follow. The original plans were approved by the Board January eleventh, and the several changes August twenty-fifth.

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *October* 27, 1892.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.*

Dear Sir.—I have the following report to make on the sewer plans for the village of Ilion: The principal point for decision is as to the advisability of approving the plans without some provision for the purification of sewage, either now or at some future time. The village lies low, and the subsoil is filled with water, nearly or quite to the surface at times of flood, in a large part of the village. It is, therefore, impossible to run the sewage through any kind of purification plant without pumping. The plans as presented give no plan for treatment, nor any suggestion of definite form as to methods possible, but discharge the sewage directly into the river. The effect of this upon the river may be estimated, after a study of the data given on the accompanying diagram, showing the results of our examination of the purity of the Mohawk river in this vicinity. It will be seen that most of the large pollution arising from the discharge of Utica sewage into the stream has disappeared before Ilion is reached. The sample at Ilion was taken below the outlet of Steele's creek, which now receives the drainage of the village, and shows the effect of this pollution. The insertion of the sewers would probably largely increase this result in samples taken below the outlet. Farther down the river is Little Falls, which produces a marked effect upon the condition of the river, extending five or six miles down stream, until East Canada creek is reached. The probabilities are very strong that, at Ea=

creek, the pollution of the river would not be materi-
reased by the sewage of Ilion, above that now shown,
Little Falls. Amsterdam is the next place showing great
ıal pollution, and the water is not used for a city supply
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fferentiates to a considerable extent the sewage bacteria
ıe ordinary kinds, and we have some indications that
the sewage bacteria do not disappear as soon as many
ordinary kinds, so that the proportion of sewage bac-
somewhat larger where the actual numbers are less.
not yet definitely demonstrated, but we hope to be able
ome data on this point soon. It seems safe to say, with
sent information, that the village of Ilion will not seri-
ıcrease the pollution of the water at Schenectady above
ıe to Little Falls and Amsterdam, but that whenever
laces are required to reduce the ratio of pollution, the vil-
Ilion should be required to do its share.

› details, I think the main outlet should be reduced in
raised above ordinary stages of the water in the river (as
:) in order to give a self-cleansing velocity in it. The
pipe in the inverted siphon on West Main street
be decreased for the same reason, and a greater fall
be allowed for through it. If it is possible to make a
ion with the creek or some mill-race above, to give a
ıt stream of water, somewhere near the capacity of the
the inverted siphon, that would be advisable, also. It
to have man-holes at each end, as the pipe is liable to
little trouble, and it should be made as accessible as
e. Duplicates must be furnished to file in the office.

Respectfully submitted.

CHAS. C. BROWN, C. E.,
*Consulting Engineer.*

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *January* 6, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N.Y.:*

Dear Sir.— I have the following report to make on the revised plans for the sewerage of the village of Ilion.

The revision consists principally in the addition of plans for the chemical treatment of the sewage before discharging into the Mohawk river, in accordance with the resolution of the Board when the plans were first up for consideration. These plans seem to be ample for any probable increase in population within a reasonable time and there is plenty of chance for their extension, when necessary. The description by the engineer is sufficient to give a clear idea of their extent and methods. The minor changes recommended in my former report have been made and the plans as a whole are satisfactory.

Copies of all the plans and reports must be furnished to file in the office of the Board, according to the law.

Respectfully submitted.

CHAS. C. BROWN.

THE STANWIX ENGINEERING COMPANY,
ROME, N. Y., *October* 5, 1892.

*The Board of Sewer Commissioners, Ilion, N. Y. :*

Gentlemen.— We herewith hand you the general sewer map of village, with profiles of the streets showing the grades, etc., of the proposed sewers, and also specifications for the work accompanied with forms of contract and proposal.

The general plan shows the contour lines of the village, the sizes of the sewer on the different streets and the directions of flow that the sewage will take upon them. The manholes, lampholes and flush-tank are also indicated thereon.

The profiles indicate the sewer grades, sizes, cuts and the cellar bottom levels, as well as the location of the different manholes, lampholes and flush-tanks.

An examination of the general plan shows that the greater portion of your village lies to the south of the Erie canal and

that it has no gravity outlet for sewage except through or under the canal. This larger portion of the village, as is seen by the contour lines, consists of a low intermediate portion placed between two points of the hills projecting northwardly. These points reach approximately to the Erie canal. Through the lower portion south of the canal passes Steele's creek, which passing under the canal, reaches the Mohawk river northwestwardly of the village.

It being deemed desirable to carry as much of the sewage to the northeast of the village as possible, since the direction of flow of the Mohawk river is eastwardly and the prevailing winds from the west, the sewage from all that portion of the village south of the canal is ultimately collected at Bridge street on Main street. From this point it passes in a twenty-four-inch pipe under the canal and along Bridge street to East North street, thence to Cottage street, thence to East River street; thence along East River street to East street, and finally northeastwardly to the Mohawk river. The sewage from the larger portion of the village north of the canal is brought to this line mainly along East North street.

That portion of the village lying to the north of the Erie canal and west of Railroad street is generally too low to discharge its sewage into the East street outlet with the use of sewers placed on grades sufficiently great to be self-cleansing with the amount of sewage that would reach them. It is consequently proposed to empty the sewage into the Mohawk river northwestwardly of the intersection of Brewery lane with West River street. This outlet, designated as the Brewery lane outlet, will receive the sewage from West River, West North, West Clark and West Canal, Grant, Brewery lane, and a small portion of Railroad street at elevations that will admit the draining of the cellars on those lines during times of ordinary stages of water in the river. In times of high water those cellars can not be drained by gravity.

The emptying of the sewage of your village into the Mohawk river, as the natural drainage outlet, should not cause serious objection until such a time arrives when by reason of its quan-

tity it becomes a nuisance and danger to the health of yourselves, your neighbors, or the inhabitants of the towns and cities further down the river. This time is quite remote since, owing to the population of your village, the amount of sewage will be small compared with that of the other towns and cities at present discharging their sewage into the same river. However, should the time come when it is necessary to treat your sewage, the system proposed is so arranged that such treatment, whether by filtration, irrigation, chemical treatment or otherwise, can be made to form a part of the plan now submitted. This plan provides almost universal cellar drainage, and it is our opinion that when sewage treatment is resorted to, the sewage must be pumped to a slightly higher level than the East street outlet would discharge into.

The location of the pumping and sewage treatment plant would depend upon future factors which will arise when such treatment becomes necessary, but it probably would be somewhere near the northeast portion of the corporation. Such being the case, the sewage from the northwestern portion of the village now discharging through the Brewery lane outlet could be conveyed to the pumping plant by either a low grade sewer or by suction along River street, and its outlet to the river discontinued except in emergency cases.

Cast-iron pipe is provided for, as you will observe, under all creek, canal and race crossings, and for those portions of the outlets extending into the river. All other sewers are of vitrified sewer pipe of standard thickness. All sewers are laid upon grades which if the sewers ran one-third full would be self-cleansing; but, inasmuch as many of the outlying ends of the system would carry little sewage for some years, we advise the use of and have planned the system with a number of automatic flush tanks to be supplied with water from the water mains.

At every change of grade or alignment a manhole or a lamphole is inserted for purposes of inspection of the sewers, and also at other points when no such change occurs for long distances. An increase of grade is made within nearly all manholes to prevent the formation of deposits therein, and to facili-

tate the flow of the sewage which would be retarded by the change of alignment or cross-sections of the sewer.

The entire system, as designed, is intended to be first-class in every respect, and of ample capacity for the future needs of your village, and the mains are intended to be of a size sufficient to admit of extensions along the streets not built upon or unopened.

The number of miles of sewers is 10.83.

For further details of the work we would refer you to the plans and specifications.

We estimate that the system can be built complete as planned for $67,881, which includes $4,000 for contingencies, engineering and superintendence.

Respectfully submitted.

THE STANWIX ENGINEERING COMPANY.

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## ILION, N. Y., SEWAGE DISPOSAL WORKS.

### DESCRIPTION OF PLANT.

Reference is herein made to the drawings for the Ilion, N. Y., sewerage system and the specification therefor and especially to drawing No. 1877 entitled "General Plan and Sections, Ilion, N. Y., Sewage Disposal Works."

The process proposed for the sewage treatment is that of chemical precipitation by the addition to the sewage of milk of lime and sulphate of alumina, in quantities sufficient to afford a clear and unobnoxious effluent, this treatment combined with subsequent precipitation in tanks — the sludge to be afterwards compressed into cakes in a sludge press and sold as a fertilizer or otherwise disposed of.

The engine-house is a one-story and a half building and contains an engine-room, boiler-room, coal-room, and a chemical-room and store-room on the upper floor. The lower story is thirteen feet in height in the clear and has its outer walls of brick, as are also the inner walls between the engine and boiler-rooms and between the coal and engine and press-rooms.

The foundations of the building are of rubble masonry, carried down into the natural ground. The upper story and the roof are to be of wood; the roof to be of slate. Floors of the coal and boiler-rooms are to be of brick and that of the pit of the engine-room to be of concrete; all other floors are to be of pine or hemlock joists. The inside walls of the engine-room, press-room and office are to be plastered.

The chimney is to be of brick seventy (70) feet high above the floor line and with its smoke flue twenty-seven (27) inches square. The chimney to rest on rubble foundations carried down into the natural ground. The flue for a distance of twenty feet just below and above the smoke flue from the boilers is to be lined with brick.

The engine to be seventy-five (75) H. P., automatic cut off, of the Corliss or other approved make.

The main shafting is to be of steel supported from floor above from I beams in place of joists. All steam piping of wrought-iron, and all large belting, double thickness, and of sufficient widths to easily withstand the required strains.

There shall be two centrifugal pumps for pumping the sewage from the wells into the carrier; the milk of lime from the lime mixer will be admitted into the scrolls of these pumps and the sulphate of alumina admitted from its mixer into the carrier below or near the east wall of the engine-house. The chemical mixers shall be operated by beltings from the main shaft, the chemicals to be admitted into them through funnels from the floor above.

The sludge press will be of sufficient size to care for the sludge from 10,000 persons when operated during the day time. The sludge will be forced into it by means of a 500,000 gallons horizontal duplex pumping engine, pumping the sludge from the sludge well. The water from the press to be conveyed through the engine-room to the carrier.

Coarse copper screens are to be constructed at the entrance to the sewage wells and in the sludge wells.

There will be two horizontal steel boilers, each of fifty H. P. set in brickwork with full flush fronts.

The foundations of all the machinery will be of either stone or brick set in hydraulic cement mortar, and all other brick and stone work will be so set.

There will be two precipitation tanks with two compartments each. Each compartment will be twenty seven feet by 100 feet and have a depth of seven feet from flow or water line to the concrete bottom at the walls. Each compartment will have a sludge channel or trough three feet wide built of brick and concrete and extending from near the east end of the tanks to the west end with a fall of two feet in that distance.

The tanks will have rubble foundation walls, and a concrete bottom sloping towards the sludge channels. There will be a wooden weir in the east end of the partition wall between the two chambers of each tank, consisting of plank sliding in wrought-iron grooves so arranged as to be used for any depth of sewage in the first chamber. Iron syphons for emptying the first compartment will pass through the brick partition walls. The clear effluent will be drawn from the second compartments into effluent wells and from there through a pipe into the main sewer and on to the Mohawk river. The sewage will enter the tank at the bottom and rising pass over a plank weir into the first settling chamber.

Means are provided by the various valves and piping to operate one tank while the other is idle, or both simultaneously.

The building over the tanks consist of an "M" shaped roof placed upon brick walls and a central row of brick piers. The roof is to be of tin on boards placed on purlins resting on fourteen wood and iron trusses and the end walls.

A gallery supported on iron brackets is to extend along both ends of the building and along the central wall.

The ground surrounding the buildings is to be filled in to a general level of one foot below the floor line.

# NIAGARA FALLS.

Plans for proposed change of plans of the sewer system of the city of Niagara Falls, were approved by the Board January 11, 1893.

The report of Consulting Engineer Charles C. Brown, which follows, gives the details with sufficient minuteness. The map and plan showing line of proposed sewer tunnel, &c., follow this report:

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *January* 5, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.*

Dear Sir.—I have the following report to make on the proposed changes in the plan for the sewerage of Niagara Falls:

The villages of Suspension Bridge and Niagara Falls have been consolidated since the sewerage plans of the two have been approved by the State Board of Health, and they now form the city of Niagara Falls. The approval of changes of the plan for the sewerage of the city by the State Board of Health is required by the city charter, and these proposed changes are therefore presented for the action of the Board.

It was proposed in the original plan for the sewerage of the village of Niagara Falls to discharge the sewage of the second district into the tunnel of the Niagara Falls Power Company for which a provision has been made in the charter of the company. For various reasons it has been thought best to abandon this plan, and it is therefor necessary to provide a new outlet for this district. The plan herewith presented is for a tunnel on the shortest line to the outlet below the falls. This tunnel will be perhaps fifty feet or more below the surface through limestone. Its depth can be varied to correspond to the best location as regards quality of material to be passed through, provided it is deep enough to pass under the hydraulic canal. The detailed plans are presented and seem to be sufficien

The city engineer has gone into the question of the comparative cost of the tunnel and an open cut following a contour near the river bank, and stated to me that the tunnel had proved the cheaper, all things considered. The advisability of following the one or other of these plans is simply a matter of comparative cost. The tunnel is of large section, but the city is now growing rapidly and there is a large area which will ultimately drain into it, so that at some time in the not far distant future its capacity will not be excessively greater than the amount of water to be carried. Detail plans 5, 6 and 7 show one method of constructing the outlet by a vertical shaft, and plans 9 and 10 show another method by an inclined double iron pipe buried in the slope of the talus. The latter is, I think, preferable.

Respectfully submitted.

CHAS. C. BROWN.

# CAMDEN.

Plans and specifications for a system of sewers for the village of Camden were presented and received the approval of the Board February eighth.

The report of Consulting Engineer John Bogart recommended certain change of plan, and the approval of the Board was made contingent upon such change being made. A subsequent report made by Mr. Bogart shows that such changes as were recommended were made by the sewer commissioners. The several reports by Mr. Bogart are printed herewith and maps and plans follow.

*February* 8, 1893.

Dr. LEWIS BALCH, *Secretary State Board of Health:*

Sir.—I present herewith the plans and specifications for the sewerage of Camden, Oneida county. This is to be a separate system, provided with flush-tanks. The outlet is into a rapid stream, which empties into Oneida lake, about forty miles by the stream from Camden. No supply is now, or probably ever will be, taken from this stream for potable uses.

The system is properly designed. Some modifications ar required in the grades, and the engineer promises to make thes modifications. I recommend the approval of the plans.

Respectfully.

JOHN BOGART,
*Consulting Engineer.*

*March* 4, 1893.

DR. LEWIS BALCH, *Secretary State Board of Health:*

Sir.—I transmit herewith in duplicate the plans for the sew erage of Camden, N. Y., prepared by Walter F. Randall, C. E Syracuse.

These were approved at the last meeting of the Board, sul ject to certain changes to be made under my direction. Thes changes have now been made, and I recommend that one s be sent with approval indorsed, to the commission of the villag

Respectfully.

JOHN BOGART,
*Consulting Engineer.*

*March* 9, 1893.

MARION RANDOLPH, Esq., *Assistant Secretary State Board of Healt Albany, N. Y.:*

Dear Sir.—I have your letter, asking in reference to a repo from the engineer to the sewer commissioners of Camden, Oneid county, on plans for the sewerage of that village. The plan were accompanied by letters and not by a formal report. I hav to-day written to the engineer to immediately prepare and fo ward that report, and you may expect it within a few days.

While the letters that I have from the engineer, and the lon interviews that I have had with him, fully explain the plans, nevertheless recognize that a full report should accompan these plans, and that their final approval by your office shoul await the receipt of such a report.

Very respectfully, your obedient servant.

JOHN BOGART,
*Consulting Engineer State Board of Health.*

# HERKIMER.

Plans and specifications for a system of sewers were presented to the Board by the trustees of the village of Herkimer, and were approved March fifteenth. The matter was referred to Consulting Engineer Charles C. Brown for examination and report, and his report, together with a description of proposed system, are printed herewith. The maps and plans follow. A report by Engineer Baxter, fully describing the proposed system, is also given.

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *March* 14, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.*

Dear Sir.—I return herewith the plans for Herkimer. The sewer plan is ample for the work to be required of it, and can be approved when the plans for the sewage disposal are presented. I have a letter from Mr. Baxter, the engineer, in which he says he will present the plans at the meeting to-morrow. I shall be unable to be present, for reasons which Prof. Perkins can explain to you.

Yours respectfully.

CHAS. C. BROWN.

## REPORT ON SEWAGE.

*To the Honorable the Board of Trustees of the Village of Herkimer, N. Y.:*

Gentlemen.—In pursuance with your instructions I herewith present the following report, plans, specifications and estimate of a system of sewage for Herkimer, N. Y.

As is known generally, Herkimer lies upon a very level space, and the subsoil is largely composed of silt and creek washings. The West Canada creek at some former time, instead of follow-

ing its present course, evidently had its principal channel across the northern side of the village, and turned southerly near what is now Bellinger street, and thence to the Mohawk river at some distance westerly of its present entrance. This is shown by my levels, and the general topography.

The first labor necessary was the taking of levels over the entire surface of the village, and connecting them, so that, by a practised eye, the exact condition of the surface is made perfectly plain. Consultations with the expert engineer of the State Board of Health have been had, and the wishes of the Board have been followed as closely as possible, in the plans of the system, &c.

One of the principal factors in connection with the problem of securing a proper system, economically, was how to dispose of the sewage so that in the future, when the Mohawk river shall have been cleansed of all impurities from abutting cities' sewage, which occurrence will no doubt surely take place, some time in the near future, from the feelings and views of the eminent sanitary authorities of this State, the plan being as is claimed perfectly feasible and sure to come.

With this view in hand, the undersigned has planned what might be termed temporary disposal; that is, disposing of the sewage as shown on plans by means of a small pumping plant during the flood season. The improvements in the application of electricity for motive power being so revolutionary as the patent reports would seem to indicate at present, necessitates (for the sake of economy, which is at all times important) considerable care in not making the first cost of this part of the system very expensive. At present the mean out-put of sewage from habitations in your village will range not far from 250,000 gallons per day of twenty-four hours. The storm water reaching the sewers from the roofs, assuming forty inches of rainfall per year, which is liberal, would make, after making the proper allowance for roof water that would not reach the sewers by reason of small conductor pipes, etc., would perhaps equal, or a little more, the habitation sewerage spoken of above.

Some may have the idea that a system of sewage for a village

or city means necessarily the taking in of all water both that is used in the houses, and that which falls on the streets and abutting lawns and yards, over the entire village or city. This idea, previous to say eight or ten years ago was, generally speaking, true. But like everything else, changes have come in the manner of sewage disposal, as in many other things. Sanitary research has proven beyond a reasonable doubt recently that the system of sewage disposal that forces to a minimum the quantity and pungency of sewer vapors and growth of disease giving bacteria is certainly the one to be sought for.

Sewers that have a sufficient capacity to accommodate storm water besides legitimate house sewage must, of necessity, remain for long intervals without the least flushing or cleansing power caused only by storm water, and during these long, dry intervals the solids have ample opportunity to give forth the harmful and dangerous odors so common to the combined systems in vogue in nearly all the older cities.

The separate system, which my plan contemplates, will take care of all organic wastes and human offal and also roof water, but does not handle the storm water. Your storm water is now well taken care of by the gutters, cluices, &c., on the various streets of the village, with perhaps but few exceptions, and they, by a small amount expended annually, will easily and economically render perfect drainage for your surface water.

The separate system is now in vogue in many cities and villages throughout the country. It is much cheaper, more efficacious, and gives more satisfaction in maintenance than the combined system, which is very expensive in first cost, extremely troublesome to maintain, and is constantly needing repairs. And again its accessories are multifarious, catch basins have to be built, and kept in repair; also branches from them to the sewers are a constant source of trouble and expense, to say nothing of the question of cleanliness and sanitation.

Many of the cities of this State have only what is correctly termed growth systems, which means, that as these cities expanded, their sewers were increased in size and depth, from time to time, to meet the new demands, until it is a safe venture

that New York, Albany, Schenectady, Utica, Syracuse, Roche ter and Buffalo, have spent enough money upon their sewers, i trying to keep abreast of the times, in the last twenty years, tha would have built a complete and lasting system for each of th cities mentioned.

In Utica alone the money expended each year to replace ol sewers that have become inadequate both as to capacity an depth, with new ones to meet the present condition is certainl enormous, particularly when it is known that many of the sewe laid this year, for instance, will in the near future have to b replaced by others.

These facts have been constantly kept before the public in th reports of city officers, notably city engineer's reports, and th person who remarked, "What is everybody's business is nobody business" certainly spoke the truth.

The great trouble with these cities seems clearly to be eith indifference or ignorance, upon this subject; for as a busine proposition alone untold saving could be made, if even at th late day, each were to commence building an adequate syste based upon a maximum population.

In the question of proper sewage for Herkimer the populatio about 4,700, separate sewerage system area of 298 square acre and many other items of data were considered fully befo arriving at any conclusions.

The size of sewers as shown on plans, &c., annexed we determined upon for a future population of from twenty-five thirty thousands, although, if in the future, the village shou grow, east of Protection avenue, or west of the Bellinger add tion new sewers for these localities would be necessitated.

Again, as regards buildings being placed very close together i the central part of the village (which will, no doubt, be a fact i the future as land increases in value), much care and consider tion was given.

The undersigned, after carefully considering the matter, coul not feel justified in planning a system that would handle an thing more than household wastes and roof water.

The loose, porous soil, underlying your village, causing great distribution of pollution from cess-pools and outside privies must of a necessity cause constant sickness.

It is surprising to know that many of your residents (all intelligent) can not realize the great danger to health from close proximity of outside privies to wells and houses.

By a careful calculation it will be ascertained that the cost of having inside closets and proper water and sewer connections with city water in five years is much less than the maintenance of cesspools and outside privies in actual dollars and cents, to say nothing of disease and its attendant cost, with death many times thrown in as an incidental.

The size of the street sewers as shown by the plans range from eight inches in diameter to twenty inches in diameter. The size of the ordinary house branch to the street sewer should not be larger than four inches. This may seem too small to some, but let us see what is said by authorities upon sewerage. Is it not far better to have the house drains of a consistent capacity for the amount of sewage to be carried than to have a capacity three or four times larger than will answer? So that foul vapors, odors and deadly stenches have ample room above the water line in the sewer to pass into dwellings, &c., causing disease and death.

George E. Waring, in his treatise on sewerage, very truthfully remarks: "Take care of the health rate, and the death rate will take care of itself."

The incidental sanitary effect of sewerage resulting chiefly from the draining of the ground and the consequent drying of cellars and of the earth about the houses is certainly an important one, but a much more important effect is the removal of organic waste from the vicinity of houses, where its retention would do harm, and its delivery at a distant point in a fairly fresh or unputrified condition. The reason why it is important to remove these wastes, and to remove them while fresh, is that they are liable to become the seat of putrefaction, and that the products of their putrefaction, if within the town, are capable

of injuring human beings, either by producing depression or a general malaise or by causing specific disease.

The diseases which sewerage and the attendant sanitary improvements are most distinctly capable of controlling are interec fever (typhoid), cholera and diarrhoeal diseases. The relation of diphtheria and cerebro-spinal meningitis, etc., to local filth is less clearly established, but it is probably very close

From the point of view of the political economist disease is more important than death. A man dead is a man done with He ceases to be a factor of the economical problem. While the State loses his value as a developed and useful force, and those dependent upon him suffer in their means of support, once buried he is no longer a charge upon the living. While appreciating with the tenderest sympathy the grief of those surviving him, we see that the practical loss sustained by the community is slight as compared with the loss of the efficient productive power of the twenty sick, who do not die, and the requirement for their nursing, treatment and support while sick, viewed in this aspect, disease is far more serious than death.

Sewerage and improved house drainage, coupled with the supply of pure water, are the leading and most effective measures by which the sanitary condition of England has been improved. The degree of that improvement is indicated by statistics of the past twenty-five years. The annual mortality in England and Wales for each million of the population has been as follows: 1861-1865, 22,595; 1866-1870, 22,436; 1871-1875, 21,975; 1876-1880, 20,817; 1881-1885, 19,310.

Comparing the number of deaths of the last period with those of the first we find the difference amounts to 3,285 per million. The population is about 30,000,000. The annual saving, therefore, is about 100,000 lives. Assuming that there are twenty cases of sickness for each death there has been a saving of about 2,000,000 cases of sickness in the year. Mr. Edwin Chadwick, C. B., the oldest, the most active, the most efficient of English sanitarians, who was born with this century, and who is still with us in full vigor, a witness of the success that has attended his life's work, has made interesting

calculations as to the cost of each case of sickness in lost work and doctor's bills, and of the value of the lives saved, as compared with the interest on the money spent in sanitary improvements, including water-works, sewerage, vaccination grants, and official salarys, showing on this purely commercial basis, a great financial gain, to say nothing of the personal suffering and bereavement avoided, of all works of sanitary importance doubtless the most radical, and the most effective, is sewerage with its natural accompaniment house drainage. This is, indeed, the key to the improvement of the water supply. It is hardly too much to say that where a community is supplied with water only by local wells the purification of the ground, which works of drainage are capable of effecting, will result in a short time in the purification of the water of wells, no matter how much this may have been polluted by previous practices, if only the sewers are tight.

There is one lesson, however, which has come from the epidmiological study of the relations of the soil and of the drinking water to infectious diseases, and that is the immense importance of the proper disposal of the refuse matter around human habitations, and the supply of pure drinking water. The efficacy of a good system of drainage or of sewerage in preventing the development of many epidemic diseases is probably to be sought, not in the purifying of the ground, so that pathogenic organisms can not grow there, but in affording means by which these organisms contained in human excreta and other substances are readily carried away.

The separate system proposed for Herkimer comprises (see approximate quantity sheet) sufficient flush-tanks, which will work automatically and keep the sewers positively clean all the time; they will, probably be set down so as to discharge once every other day, or oftener if desired; the Rhodes Williams Tank is one recommended by the expert of the State Board of Health, and the undersigned can freely say, from study into its workings as well as of others, that it certainly seems to work the surest, and is very simple in construction. A pipe as shown is

connected with the water main in the street, and is led to the tank, and is set so that it delivers just sufficient water to fill the tank in the time agreed upon for flushing.

At one point in the system one tank is made to flush three sewers at once, and at other points as shown on plans one tank is made to flush two sewers thus economizing not a little. In connection with the flush-tanks it may not be improper to say that the condition of the sewers will largely depend upon a perfect and free working tank.

Flush-tanks on map are marked thus, O F. T.

Manholes on map are marked thus, O M. H.

Inspection holes on map are marked thus, □ I. H.

Manholes as shown on plans will be of untold service in the maintenance of the sewers, and for ventilation as well; in fact manholes, to a system of sewers, are like valves to a water-works system; the greater the number the cheaper and easier the system can be handled. The manholes will be so constructed that at any time a thorough inspection can be had by the added means of the inspection holes (which, on plans, are marekd thus, □ I. H.), which, by the way, are a very cheap and needed accessory.

With a lantern let down one of the inspection holes, and men in the manholes above and below (on the grade of the sewer) an obstruction can quickly and easily be detected and removed.

Upon some of the streets, owing to the fact of not having been filled up to the recognized grade, notably south of the New York Central railroad, and east of Washington street, the depth of the sewers on the plans are slight, but when the street grades are elevated, as they will have to be shortly, the sewers in these streets will be ample in depth for all purposes intended.

The new Palmer Hotel, on Main street, has, perhaps, the deepest cellar in the village of any inhabited structure, and to properly drain this and other deep cellars of the future, considerable thought and study was given.

If the village is to have sewerage, the roadway of Washington street, across the flats, must be somewhat elevated, to allow

of reaching the pump-house with supplies, etc., in case of a necessity.

Some of the manholes that will, in time of high water, be entirely submerged, must be sealed and water-tight at the top, and, when opened, should receive great care in re-sealing.

The village should, of course, obtain a right of way to build and forever maintain these sewers, laid across private property, and sufficient land at disposal works to properly maintain and control the outfall of sewerage buildings, etc. Such buildings and structures as are needed at the outlet of the system on the river flats will be constructed with due regard to economy and durability.

In conclusion, the undersigned would say that the developing of this system of sewerage, and the plans, etc., for it, have necessitated considerable study, a great deal of pains, and much calculation, more, perhaps, than many would believe possible; but the village, lying so nearly level, made imperative a condition requiring much more study, calculation, &c., than would be required in perhaps any village or city in the Mohawk valley, to obtain results that would be in any manner feasible.

This report might be enlarged to almost any extent, for the subject is so important, not only to the living, but to those who are to come, that only the shortness of time can be a possible excuse for brevity.

Respectfully submitted,

F. K. BAXTER,
*Civil Engineer.*

## PROPOSED DRAIN AT MOUNT VERNON.

The papers bearing upon the subject and the report of Consulting Engineer John Bogart, relating to the proposed construction of a drain in the city of Mount Vernon, are printed herewith The matter was the cause of considerable opposition on the part of several residents of Mount Vernon and an engineer was sent

by the Board to examine and report on the matter. In th report of Mr. Bogart the plan is shown and fully explained and received the approval of the Board, March twenty-fourth.

MOUNT VERNON, N. Y., *February* 25, 1893.

Hon. LEWIS BALCH, *Secretary, etc., Albany, N. Y.:*

My Dear Sir.— You will remember that about the twenty-firs of December last, Mr. R. W. Turner, of this place, and myse called upon you in relation to the action of the board of healt of Mount Vernon, whereby it determined to construct a drai through vacant property in this city over a natural stream o watercourse by walling up the sides thereof and covering th same with flagstone and covering the flagstone with a foot o earth. Upon conferring with you in relation to the subject, i I remember rightly, you intimated that the plan of the local board of health, as above stated, was not deemed by you to be a sani tary measure and that if the matter ever came before the State Board of Health, you would not approve of the action of the board of health of Mount Vernon or their plan of covering up this natural stream. We are now in this position; our local board of health has proceeded to let a contract and are about to com mence covering over the stream in the manner stated to you and what we desire to know, is this: Is there any way by which we could make complaint to the State Board of Health and have the State Board of Health take a hand in this matter and order the local board of health here not to construct the drain in the man ner proposed, on the ground that their proposed action or method of covering the drain is not a sanitary disposition of the nuisance, if it is such. We have been powerless in the courts so far in our efforts to obtain a permanent injunction and it is a matter of great injustice to the property owners as well as to the citizens of the city to allow this board of health to construct the drain in the manner proposed. If there is no ground upon which the "State Board" will interfere, would you make an affidavit for me to be used before the courts, alleging that the method pro posed by the board of health here is inadequate, ineffective, no a sanitary measure and in your judgment would be a detrimen

rather than a benefit to the property and to the citizens. Kindly let me hear from you at once and advise me if the State Board of Health will take any action in the matter and also advise me as to whether or not you will make the affidavit upon an inspection of the plan and specification of the local board of health.

Yours very truly.

MILO J. WHITE,
6 *East First street, Mount Vernon, N. Y.*

ALBANY, *February* 27, 1893.

To MILO J. WHITE, Esq., *Counselor at Law, 6 East First Street, Mount Vernon, N. Y.:*

Sir.— Yours of the twenty-fifth instant was received this date. It appears the State Board can only interfere in the matter you refer to: 1. By statement being made to it that the proposed sewer is to be part of the main system, and the change not having received the approval of this Board is in violation of section 3, chapter 608 of 1886.

2. By complaint to this Board, certified to by the complainant, that the construction of said sewer is, or will be, a menace to their health, and the local board of health refusing to entertain their complaint the State Board can act under the provisions of subdivision 1, section 3, chapter 270 of the Laws of 1885.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

MOUNT VERNON, N. Y., *March* 1, 1893.

Hon. LEWIS BALCH, *Secretary, etc., Albany, N. Y.:*

My Dear Sir.— Yours of the twenty-seventh of February at hand, in relation to matter before the board of health of the city of Mount Vernon. I have prepared, had certified and mail you herewith a complaint against the board of health of the city of Mount Vernon, in reference to this matter. Will you kindly serve an order upon the board of health of the city of Mount Vernon restraining them from constructing the drain

complained of, and give us a hearing before your honorable Board upon the facts, and notify me as soon as possible at what day, hour and place the investigation will be held.

Yours, very truly.

MILO J. WHITE,
*Attorney for Petitioner, Mount Vernon, N. Y.*

ALBANY, *March* 7, 1893.

To MILO J. WHITE, Esq., *Counselor at Law, 6 East First Street, Mount Vernon, N. Y.:*

Sir.— Yours of the first instant inclosing a copy of a petition of Mr. J. Howard Burton was duly received. Owing to my absence from town it could not be answered before to-day. I have forwarded a copy of the petition to the health officer of Mount Vernon for a report on the matter that may be, with the petition, laid before the Board at its meeting on Wednesday, the fifteenth instant.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

*March* 13, 1893.

Dr. LEWIS BALCH:

Dear Doctor.— Your letter of the eleventh received this a. m. I will be on hand Wednesday, fifteenth, to appear before your Board. Thanks for the information.

Yours, etc.,

S. B. CARLISLE.

*March* 10, 1893.

Dr. LEWIS BALCH, *Sec'y:*

Dear Sir.— Yours of the seventh at hand, enclosing copy of complaint of I. Howard Burton against the board of health. In reply, I would state as follows: The stream, or drain, mentioned by Burton has been condemned by the State Board of Health several years ago, by the common council of Mt. Vernon, and by every local board of health that Mt. Vernon has ever had, as a dangerous nuisance and menace to public health.

From time immemorial this drain, taking its origin in an old peat bog, has flowed through Mt. Vernon, draining the surrounding lands, and as the habitations have become more dense of course the stream has become more and more polluted. As the city has grown, the owners of lots along its course have covered it up and built over it for at least three-fourths of its entire length. All attachments to it of cesspools or privies have been forbidden by both village and city authorities. Now, a number of land speculators have purchased the lots through which the other uncovered one-fourth of this drain flows, and the D. G. Burton Company have their lumber yard and sawmill on part of this land. A few years ago this drain was walled up with stone, but the present owners, including I. Howard Burton, have permitted the walls to fall in, and so it has impeded the flow of the polluted water, and horse manure and human manure, from privies and stables on the course of this stream, has washed into this stream, and the fallen walls have gathered all this polluted material on the sides of the drain, and it remains exposed to decompose in the sun. The entire community on Chester hill are almost in arms about it, and the board of health, after due notice to the owners, including this Burton, and giving them an opportunity to be heard, have again pronounced it a dangerous nuisance and a menace to public health, and ordered it abated, in any way that the owners saw fit, provided it was abated; but as the owners would do nothing, the board commenced the work of replacing the dry walls on the sides of the drain, and intend to cover it with flagstone and earth, and when they get to the mill of D. G. Burton Company he will find that he will have a drain pipe placed under his mill sufficiently large to accommodate the water, and tight enough to keep in the exhilation. Since beginning this action we have been met with injunctions from the courts, restraining us from doing this necessary work. One injunction has been vacated, after full argument on both sides, and one other is at present in the hands of the judge, having been fully argued on Wednesday last. As there are thirteen owners, we may have other injunctions, if this one is also

vacated. This complaint of I. Howard Burton is only one small move among many to prevent, if possible, the board of health from abating one of the worst disease-breeding spots in Westchester.

I am, dear doctor, yours respectfully.

S. B. CARLISLE.

*March* 11, 1893.

Dr. LEWIS BALCH:

Dear Doctor.— I sent you a reply to the Burton complaint yesterday and have only to add to-day that Judge Dykeman, of the Supreme Court, rendered his decision this morning in the injunction proceedings, vacating the injunction and sustaining the board of health in every way.

Your note of the tenth at hand this morning, informing me that a meeting of the State Board will be held Wednesday the fifteenth. Am I to understand that I am requested to meet your Board in relation to the Burton matter? If it is, I fear that I will not be able to go that day; however, please reply, and oblige.

Yours, &c.

S. B. CARLISLE.

ALBANY, *March* 11, 1893.

To STUART B. CARLISLE, M. D., *Health Officer, Mount Vernon, N. Y.*

Sir.— Yours of the tenth instant was received this morning. It will be laid before the State Board at its meeting next Wednesday with all the other papers in the case.

The Board will meet in its rooms in the Capitol, at 2 p. m., on the fifteenth, and I understand counsel representing Mr. Burton will be present. Will you or some one representing the health board of Mount Vernon come up?

Very respectfully, your obedient servant.

LEWIS BALCH,

*Secretary.*

*March* 23, 1893.

Dr. LEWIS BALCH, *Secretary State Board of Health:*

Sir.— In accordance with your direction I have visited Mount Vernon and have examined the locality through which a stream now runs from North Fourth avenue between Valentine and Bridge streets to a junction with another stream at Burton's mill, the united streams then crossing Park avenue, Prospect avenue and Elm place and going to the lower level now being improved by the New York, New Haven and Hartford Railroad Company. I have also made a general examination of the topography of Mount Vernon and have studied various maps and plans of the city and its sewerage system. In regard to the special questions concerned I beg to report:

The existing stream is a natural water course and is the means of draining a considerable extent of territory. The water now flowing in it comes, first, from the artificial drain on North Fourth street; second, from the stream running between and parallel to Third and Park avenues; third, from the land bordering both these streams and their continuation as one stream below Burton's mill. Several land drains are visible discharging into this stream and it is clear that it is doing important service as the outlet for the drainage for this portion of the city of Mount Vernon. There is an area of wet, retentive soil on either side of these streams and the district ought to be provided with permanent facilities for drainage, which should be of such a character as to maintain their efficiency when future improvements are made in streets and buildings over the whole neighborhood.

The best location for a permanent drain for a particular district is along the line of its lowest contour and in the present case this line is substantially the location of this stream. Even were drains to be laid in every street, so arranged as to take water into them at the level at which they might be laid, it would still, in my opinion, be important that provision should be made for a drain along this water course, so constructed as to take into itself and convey away the water from this low and natur-

ally wet land. If this should not be done I believe that considerable water would be always present in the soil and that the neighborhood would be subject to the dangerous conditions which result from the existence of a large area of wet, undrained, retentive land.

If the water now entering the stream at Fourth avenue, were cut off, and if the stream coming from above Burton's mill were provided with some other course and outlet, there should still, in my opinion, be a provision made for the drainage of this district and for the free flow of water from it. The typography indicates this necessity, without regard to the streams near by entering it.

The plan for the construction of a drain, adopted by the city of Mount Vernon shows a conduit of rectangular form with a curved bottom. The bottom is to be of concrete, the sides of masonry laid dry, and the top of flagstones. With certain modifications this conduit will, in my opinion, serve to drain this district and convey away the collected water. I suggest that the conduit should conform to the following additions to and modifications of plan and specifications:

The bottom to be prepared by excavating all material to a depth of twelve inches below the bottom of the concrete base and six inches below the bottom of the stone side walls and six inches wider than those side walls, as indicated on the accompanying drawing. There is to be placed in the space thus excavated, sand, gravel or broken stone, which shall be thoroughly compacted by ramming, and the surface of which shall be brought to the elevation of the bottom of the side walls and the bottom of the concrete.

The concrete shall be composed of the best quality of hydraulic cement and of sharp, clean sand, in the proportion of two parts of sand to one part of cement. The sand and cement to be thoroughly mixed. Fine gravel or broken stone, in proportion not greater than the proportion of sand may be added to the cement and sand in this concrete.

The concrete shall be placed upon the sand or gravel or broken stone foundation and thoroughly rammed or tamped in

place. The upper surface shall be brought to the lines indicated, with a concavity or versed sine of at least four inches in depth at the center in the width of four feet, so that there shall be an impervious channel of four inches in depth at the center and truly curved on each side. The surface shall also be brought to true gradients longitudinally and shall be at all points smooth and even and present no obstruction to the free flow of water. The thickness of the concrete shall be at least six inches in the center and shall increase in thickness toward the sides; its bottom shall be level transversely, all as shown by sketch. That part of the conduit which has a clear width of three feet shall have a concrete bottom formed in the same proportions and with a thickness of concrete in no case less than six inches and a concavity or versed sine of four inches, an impervious channel being always provided at least of four inches depth at the center and with truly curved sides.

All cement shall be subject to such tests as the engineer in charge shall require, and shall be approved by the engineer before being used for any part of the work.

The side walls shall be of selected stone of the full width of the walls, laid true to line and grade and in accordance with the directions of the engineer. The bottom of the side walls shall be at least six inches lower than the bottom of the concrete.

The covering stone shall be not less than four inches in thickness for a clear span of four feet. The covering stone shall be not less than three inches in thickness for a clear span of three feet.

All the work of every description shall be executed under the direction of a competent civil engineer, who shall be responsible for its proper construction.

This conduit is to serve for drainage and not for the conveyance of sewage.

The plan suggested is shown by sketch on the following page.

Respectfully submitted.

JOHN BOGART,
*Consulting Engineer.*

# SIDNEY.

Plans for a system of sewers were received from the sewer commissioners of the village of Sidney and received the approval of the Board April 15, 1893.

These plans provide for a separate system of sewers, except that some surface water is admitted from small areas of certain streets. The approval of the Board was based upon a report of Consulting Engineer Charles C. Brown, which report is printed herewith. The plans and maps follow and show the system in detail.

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *April* 10, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.:*

Dear Sir.—I have the following report to make on the plans for the sewer system of the village of Sidney.

The village is located on the Susquehanna river about fifty miles above Binghamton, and has a population of about 1,400. It seems to be growing at a fair rate and is likely to increase in size somewhat, as it is at the intersection of two railroads and is receiving from time to time additions to the number of manufacturing establishments. Most of the village is on a level plain but slightly above the maximum high water in the river, and the southwestern portion has a depression drained by a small brook. There are no difficulties in the way of designing a system of sewers except as regards this portion. The area is now subject to flooding and is so low that it is impossible to put in sewers at a proper depth below the ground surface, which will discharge into the river. It is objectionable to discharge even a small amount of sewage into the small brook, so that two or three streets in this area can not be reached by the system properly. A considerable change in the method of surface drain-

age, which will prevent the present collection of water on the surface, might change the condition of affairs, but under present drainage conditions it will be necessary to grade up the streets and fill the lots to make the area properly habitable. This will make it possible to drain the houses built on the area into the sewers. At present the number of houses here is very small and it is not likely that sewers will be constructed here for some time. It will be better to leave this problem to be settled when the necessity arises.

The separate system of sewers is proposed, except that some surface water will be admitted from small areas on Cartwright and Liberty streets. The discharge is into the river through two principal outlets (and two less important ones) which can be combined into one without much difficulty if it is decided to build the whole system at one time. No treatment of the sewage is proposed as the stream is large enough to receive the small amount to be discharged without nuisance, and the water is not used for a potable supply until Binghamton is reached. It is a smaller village than Norwich on a larger stream and further from Binghamton, so that there seems to be no objection to this method of disposal.

Respectfully submitted.

CHAS. C. BROWN,

*Consulting Engineer.*

# COBLESKILL.

The plans for a change of plan for a system of sewers and sewage disposal by means of filtration beds for the village of Cobleskill, received the approval of the Board June seventh. The matter was referred to Consulting Engineer Charles C. Brown, whose report, together with certain correspondence relative to sewage disposal by means of filtration, which will

be found very interesting, are printed herewith, and plans showing proposed filter beds and change of sewers follow:

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *January* 6, 1893.

LEWIS BALCH, M. D., *Secretary of State Board of Health, Albany N. Y.:*

Dear Sir.— I have the following report to make on the proposed changes in the plans for the sewerage of the village of Cobleskill. The new plan for the sewers is but little different from the old one, and is in general an equivalent solution of the problem offered. Its reason for existing is apparently a change in engineers. There are two points in which it is not an improvement, viz.: The use of six-inch pipe on a number of streets, and the omission of flush-tanks. There is no question but that the system will work as designed, but there is also no question but that experience of a number of places has shown that the cost of maintenance of the sewer system is considerably reduced by the use of flush-tanks, keeping the sewers cleaner, and the use of eight-inch pipe as the minimum size, reducing the number of stoppages even when flush-tanks are used. In other words, the use of six-inch pipe and the omission of flush-tanks will necessitate more frequent digging up of sewers on account of stoppages, and will also necessitate more labor in cleaning out and in flushing by more cumbrous methods than the automatic flush-tank.

As regards the new plans for disposal works. The proposed new plan is to purify the sewage by intermittent filtration through suitable material, of which there is apparently a sufficient amount in the immediate neighborhood of the outlet. I will call your attention to the reports upon the disposal plants proposed for Holley and Albion, for a statement of what was required in those cases, which were in general similar in plan to this. In both those cases, covered trenches for the filtration of the sewage during times of snow and heavy frost were required. The reasons for this requirement would apply to the case of Cobleskill. I notice that high water in the Cobleskill

reek reaches an elevation of sixty-seven, according to the origi-al plans. The datum planes of the levels for the old and new lans are very nearly the same. The elevation of the top of the mbankment surrounding the filtration beds, according to the iew plan, is but sixty-five feet. Therefore, at times of extreme high water, the entire area of the beds will be covered with water, and it is probable that the currents would do considerable damage to them. The ordinary low water level of the river at this point is about fifty-eight feet. Whenever the water level is above sixty-two feet, the beds will cease work, practically. This is not a serious objection, however, as there are but few days in the year when the water level is at this height. The beds should, however, be protected from overflow by the extreme high waters. Aside from these two points the plan for sewage treatment seems to be ample.

There is a plan for sewage disposal by chemical treatment in the original set of plans, and if thought proper, the plans for the alignment of sewers can be approved independently of the new plans for sewage treatment.

Duplicates must, according to law, be furnished to file in the office of the State Board of Health.

Respectfully submitted.

CHAS. C. BROWN, C. E.

BOSTON, *January* 30, 1893.

*Secretary of the State Board of Health, Albany, N. Y.*

Dear Sir.— I learn from my representatives in charge of sewer work at Cobleskill, that the State Board of Health felt, that in order to prove thoroughly effective, the proposed sewage irrigation field at Cobleskill, should, in the judgment of the Board, be in some way protected from the severest of the cold weather. My representatives understood that the Board, or some member of it, had visited certain places in Massachusetts during the cold weather, where the results were not what they should be, and to void such results, it was deemed wise to advise that the filtration field be roofed in. Not having heard of any failures in the

sewage fields of Massachusetts, and believing that the opinion of the Board was liable to be formed from partially incorrect information, I wrote a letter to the Massachusetts State Board of Health, of which I send you a copy together with their reply, which, I think, I should consider, if not sufficient to settle the question, would, at least, deter me from covering the field until trouble actually arose, feeling as I do, that such covering and keeping out of the sunlight would certainly retard proper purification as much as freezing weather would be apt to.

In the matter of the flushing tanks, I do not know what the experience of the Board has been in the matter, but, after a constant practice of twelve years in pipe-sewer building, I can say that I have never built a flushing tank, and, in the several hundred miles of pipe sewers that I have laid, many of them with grades not exceeding one foot in a thousand, and some of them with only one-half that amount, I have never seen a place where I wanted to use them.

In Chelsea, Mass., where some were put in a few years ago, on trial, they were discontinued as being of no use, and my impression is that they have been discontinued at Lenox, Mass., though of this latter I am not positive.

Wherever I have had occasion to be consulted on the matter, I have found that those engineers who have advised their use, were either interested in the patents, or they were blind disciples of the men who controlled the manufacture and sale of the articles, and never thought for themselves.

At Cobleskill, if you look the plan over carefully, you will find that we are building many more manholes than are advocated for sewers with flushing tanks, and when completed, every foot of the system can be inspected, and flushed, if necessary, or brushed out with wire brushes, neither of which is possible with the ordinary flush-tank system.

The sewers built at Cobleskill are of the same general class of those that I built at Tuxedo Park, Richfield Springs, Potsdam and Canton — all in New York State. I believe a few flushing tanks were put in at Canton after I left, but they were introduced

under my protest, as I believe them to be utterly useless in operation and needless in expenditure.

Without wishing to anticipate the action of your Board too much, I would suggest that it would be no more expensive to add flushing tanks later on, if the necessity for them appears, than it would cost to build them now, as I should be glad to save the people of Cobleskill all unnecessary expenditures.

Yours very truly.

ERNEST W. BOWDITCH.

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Boston, *January* 25, 1893.

*Massachusetts State Board of Health*, 13 *Beacon St., Boston, Mass.:*

Gentlemen.— In designing systems for sewage disposal, we are frequently met by objections to the broad irrigation system, especially during the winter months. It is claimed by many people that the cold weather, and more especially the snow, is very detrimental to the efficiency of the system. Can you give us any information on this point concerning the action of frost and snow on any of the fields that have come under your notice? If so, you will greatly oblige,

Yours very truly.

ERNEST W. BOWDITCH,
By D. W. Pratt.

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State Board of Health, Chief Engineer's Office,
13 Beacon Street, Boston, Mass., *January* 27, 1893.

Ernest W. Bowditch, *C. E.*, 60 *Devonshire Street, Boston, Mass.:*

Dear Sir.— Your letter of January twenty-fifth, with regard to the disposal of sewage by the broad irrigation system during the winter months, has been referred to me for reply. We can hardly be said to have any experience with a broad irrigation system, but have considerable experience with filtration. The Framingham sewage disposal area has been examined by one of the officials of the board as recently as the eighteenth instant, when the weather was very cold and at least a month of

extremely cold weather had preceded the examination. The sewage had disappeared so that there was no considerable accumulation of ice, snow or sewage on the ground. One bed, having an area of about an acre, had twenty inches of frost in the ground Monday morning, January sixteenth, and was dosed during Monday and Tuesday with about 500,000 gallons of sewage. The quantity applied corresponded to a depth of about nineteen inches over the whole surface of the bed, but on the day after the last application there was only four or five inches of sewage and ice on the surface, which fact, together with the observed increase in flow from the underdrains, showed that the sewage had passed through the ground. I am informed by the superintendent of the works that upon applying another dose the next day the ice and sewage wholly disappeared. The favorable condition of these filter-beds after prolonged cold and some snow is very conclusive evidence as to the practicability of filtration in winter where the filtering material is sufficiently porous and the sewage is not too cold. The temperature of the sewage in this case was forty-nine degrees and of the effluent thirty-nine degrees.

On January third the Marlborough sewage filtration area was visited and there was frost in the beds, but the sewage disappeared very well, as there was no standing sewage and only a little ice on any of the filter-beds, excepting two, one of which had been dosed within three hours and one was being then dosed. In both of these instances the purification of the sewage has been very complete in winter as well as in summer.

At Gardner the filter-beds are so limited in area and so much sewage is applied that it is necessary to scrape the surface frequently, and in winter when there is ice on the beds this can not be done, so they do not operate as well.

I visited Cranston in 1888, at the end of a week when the thermometer was at zero most of the time, and found considerable ice upon the beds and the sewage flowing over the beds and frozen. The whole month had been very cold, and, as I found by calculation, that the total amount of ice upon the beds did not represent more than a small fraction of the total

amount of sewage which had been applied, the sewage evidently found its way through the ground, and I was informed that when the ice disappeared in the spring there was no nuisance resulting from it. In fact, it seems to me, that even if ice should form to a very considerable depth on filter-beds it could not give any trouble during cold weather when it remained frozen solid, and I do not see why, on account of the low temperature of the melting sewage, it should cause any nuisance when disappearing in the spring. I think it possible that a very close material might cease to filter sewage during very cold weather in winter.

Hoping that this information, though not exactly what is asked for, will be of value to you, I remain.

Yours very truly.

F. P. STEARNS,
*Chief Engineer.*

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BOSTON, *February* 6, 1893.

LEWIS BALCH, Esq., *Secretary of State Board of Health, Albany, N. Y.:*

Dear Sir.— In regard to the sewage irrigation field at Cobleskill, N. Y., I beg to inclose a copy of a letter I sent to South Framingham, Mass., and the answer of the chairman of the committee to the same, together with a copy of a newspaper published on the third instant, which may be of assistance to you, not only in connection with Cobleskill, but elsewhere.

Yours very truly.

ERNEST W. BOWDITCH.

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SOUTH FRAMINGHAM, MASS., *February* 3, 1893.

ERNEST W. BOWDITCH, Esq.:

Dear Sir.— Your favor of January twenty-fifth was duly received. I should have answered it before, but have been getting some facts of recent tests for publication in our local paper, of which I send you a copy to-day. We have not had the slightest trouble in disposing of sewage during the late cold weather.

The tests prove conclusively that heavy frosts and snows are next to no detriment in the successful disposition of sewage. We commence to-day to pump on to one of our beds which has had no sewage since last April, and there is close to three feet of frost in it and a foot of snow, and I venture to say by Monday morning very little frost can be found. There is no under-drain in this bed. We find by experience that the beds with an under-drain work much more satisfactory than those without. Any information which we can give will be cheerfully given at any time. Should be pleased to have you visit our sewage farm.

Yours very truly.

JOHN H. GOODELL,
*Chairman.*

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BOSTON, *January* 25, 1893.

*Committee on Sewers, South Framingham, Mass.:*

Gentlemen.— Will you please inform me as to the action of frost and snow on your sewage disposal field? Whether there has been any appreciable detrimental effect from frost or snow, or both, on the field in the winter time, or does it work as effectively in winter as in summer?

Yours very truly.

ERNEST W. BOWDITCH,
By D. W. PRATT.

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## Sewage Filtration Beds in Winter.

There has been considerable interest manifested in many places, and especially among engineering experts, concerning the workings during cold weather of the filtration beds connected with the Framingham sewerage system, and some very interesting experiments in this direction have been made recently under the direction of the sewer commissioners. Many people officially interested in such matters have visited the farm, as it is called, this winter and have expressed surprise at the results obtained.

These experiments have shown conclusively it seems that by the system in use here, sewage matter can be successfully disposed of even in the severe cold weather experienced of late, which has been the coldest known for years.

The tests referred to have been made in the interests of the the State Board of Health, observations being taken for Allen Hazen, of the Sewerage Experiment Station, at Lawrence.

The following brief notes show the result: January ninth, eighteen inches frost, ten inches snow; temperature six degrees below zero; pumped 300,000 gallons sewage; January tenth, pumped on same bed 150,000 gallons sewage; underdrain started in six hours; January eleventh, frost entirely out in some places; January twelfth, frost almost entirely gone, and sewage all disappeared; temperature of sewage, fifty Fahrenheit; area of bed, seven-eighths acre. No sewage matter had been pumped on the bed since September.

On January sixteenth another test was made on bed of one acre. Pumped 500,000 gallons sewage, temperature, forty-nine Fahrenheit; January seventeenth, pumped 175,000 gallons. On this bed there was fifteen inches of snow and from twenty to thirty inches of frost. Temperature of weather: January sixteenth, six below; seventeenth, twenty below; eighteenth, four below zero. Underdrain started in seven hours from commencement of pumping. January eighteenth, frost all gone in some places; nineteenth, frost nearly all disappeared and sewage had entirely disappeared. Not more than ten inches of frost have been encountered there previous to this year.

The Lawrence gentleman and also the city engineer of Waterbury, Conn., who have visited the disposal area, are fully assured there will never be any serious difficulty under the existing conditions found here, as regards the disposal of sewage in winter.

The State Board of Health, which has analyzed the water from the underdrains at the sewerage field, and also from a spring near the brook, which receives the effluent from the sewage beds after it has passed a greater distance through the ground, find

the analyses of the water from the spring have always shown that it contained a considerable proportion of water that was once sewage, but it has always been so thoroughly purified that its analysis compares very closely with those of several spring waters which are sold in Boston for drinking. That is, it contains just about the same amount of purified sewage and it is just as well purified.

The analysis of the water from the under-drain, as made by the State Board, has been entirely satisfactory to them, and that body has taken no little pride in the results obtained in connection with the purification of the Framingham sewerage.

About 200,000 gallons of sewage matter is now being pumped daily on to the several beds.

Some 500 tenements, hotels, residences, manufactories and places of business are at the present time connected with the sewerage system. For this service the town of Framingham has received $20,635, in entrance fees; $4,105 of which amount was paid from March 1, 1892, to January 1, 1893. This sum includes the amount paid by the commonwealth for sewage disposal at the woman's prison.

South Framingham, Mass., Friday, February 3, 1893.

## LAKE PLACID.

Certain landholders of that portion of the town of North Elba, Essex county, known as Lake Placid, presented to the Board plans and specifications for a system of sewers at that place which were approved June seventh. The plans which follow show sufficiently clearly the system proposed. A petition asking the Board's approval of plans, signed by all interested parties, accompanied them and is printed herewith.

## IN THE MATTER OF THE PETITION OF CERTAIN OWNERS OF THE LANDS IN THE TOWN OF NORTH ELBA, ESSEX COUNTY, NEW YORK, KNOWN AS LAKE PLACID, FOR THE CONSTRUCTION OF A SEWER SYSTEM THEREIN.

*To the Board of Health of the State of New York:*

The petition of the undersigned, in pursuance of the provisions of chapter 545 of the Laws of 1893, respectfully shows:

I. That your petitioners are the owners of lands in the portion of the town of North Elba, Essex county, New York, known as Lake Placid, and hereinafter described, and that the said lands are outside of any incorporated village or city.

That said lands are particularly bounded and described as follows: Beginning at a point in the south line of township No. 11, Old Military Tract, Richard's Survey, twenty chains easterly from the southwest corner of lot No. 260; running thence north three degrees forty-five minutes east one hundred and twenty chains or to the north line of lot No. 258; thence south eighty-six degrees fifteen minutes east along the said north line twenty chains or to the northeast corner of the said lot No. 258; thence north three degrees forty-five minutes east along the west line of lot No. 277 twenty chains; thence south eighty-six degrees fifteen minutes east twenty chains; thence south three degrees forty-five minutes west forty chains; thence south eighty-six degrees fifteen minutes east twenty chains or to the east line of lot No. 278; thence south three degrees forty-five minutes west thirty-eight and one-half chains to the north line of lot 279; thence north eighty-six degrees fifteen minutes west eighteen chains or to the southwest corner of lot No. 299; thence south three degrees forty-five minutes west sixty-one chains to the south line of the above-mentioned township No. 11; thence north eighty-six degrees fifteen minutes west along the township

line forty-one chains to the place of beginning, containing six hundred and sixty acres of land, be the same more or less.

II. That the said lands are thickly inhabited, containing a permanent population of at least 400 people, and that during the summer months this number is greatly increased by summer visitors to the place, there being a number of large hotels contained within this area and that the construction of a sewer system within such lands for the sewerage and drainage of the same is vitally necessary for the protection of the public health in such described territory.

III. Your petitioners present herewith plans and specifications, in duplicate, for the construction of a sewer system, prepared by a competent civil engineer, within the portion of the said town of North Elba, including such lands.

Wherefore, your petitioners pray that your honorable Board approve the said plans and specifications and certify that such sewer is reasonably necessary for the protection of the public health in such described territory.

Dated, North Elba, New York, June 5, 1893.

HENRY ALLEN.
SETH JOHNSON.
GEO. A. STEVENS.
J. A. STEVENS.
R. W. CLIFFORD.
M. N. LAMAY.
A. C. MASON.
JOHN SHEA.
FRED. LAMB.
G. W. BALDWIN.
CHAS. N. DAVIS.
ELLIS LENYFELD.
CHAS. H. CUMMINGS.
THOMAS DURGAN.
SAUL NEWELL.

# CAZENOVIA.

Plans and specifications for a system of sewers for the village Cazenovia received the approval of the Board July twenty-enth. The report of Consulting Engineer John Bogart, to om the plans were referred, shows that no water for drinking rposes is taken from the stream into which it is proposed to scharge the sewage. Mr. Bogart's report and a report of the anwix Engineering Company, describing the proposed system, e printed herewith, and maps and plans showing the lines of wers, &c., follows these reports.

*July* 27, 1893.

. LEWIS BALCH, *Secretary State Board of Health:*

Sir.—I have examined the plans for the sewerage of the village of Cazenovia and have visited that village in connection th such examination. The system proposed is a separate stem and flush tanks are provided for. The plan shows the wers extended substantially over the area of the village. In opinion the sizes and gradients of the sewers are proper d the system as a whole is satisfactorily planned. The outs are into the Chittenango creek. This is a stream which rries a large amount of water and, being used as a feeder to Erie canal, the flow is larger during the dry season than ght result from a natural flow. The water is stored by the ite and the amount passed from the lake at Cazenovia is regued for canal supply. The dilution of the sewage will there-e always be large.

The stream has a very swift current, falling about 800 feet in e miles. The bed is generally rock, with gravel and boulders, l there are frequent rapids and one fall of eighty to one hund feet a short distance below Cazenovia. The velocity of stream is therefore great and the character of the flow such o favor speedy oxydation.

No supply for drinking purposes is taken from the stream below Cazenovia.

I think that there will be no reasonable objection to the introduction of the sewage effluent into the stream, under these circumstances.

I recommend the approval of the plans.

Respectfully.

JOHN BOGART,
*Consulting Engineer.*

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THE STANWIX ENGINEERING COMPANY,
ROME, N. Y., *June* 19, 1893.

*The Board of Sewer Commissioners, Cazenovia, N. Y.:*

Gentlemen.— We herewith present you plans, etc., for a general system of sewerage for your village. The general map of the village shows the different sewer lines, with their manholes, lampholes and flush-tanks, the sizes of the sewers and the direction of flow the sewage will take. The map is on a scale of 200 feet to the inch, and shows the streets, alleys, railroad, creek, and other landmarks; it also shows the contour lines of the surface of the ground, as determined from the street levels. The existing sewer, extending from Lake street to Mill street, is also shown.

The four sheets of profiles show the existing street surface, the grades, sizes and depths of the proposed sewers, with the location of their manholes, lampholes, and flush-tanks, as well as the lengths of such sewers. The depths of cuttings are also shown to a large scale.

A sheet of detail drawings of the different parts of the work accompanies the map and profiles.

A form of contract, specifications and proposal is furnished and also a record of the benches to which refer the elevations, as given on the plans.

The greater portion of your village lies considerably elevated above the valley of the Chittenango creek, running through the corporation. This creek cuts the village in two portions, both

of which it is necessary to sewer. On account of some portions of the village lying low and of the desirability, on sanitary and other reasons, of conveying the foul water or house sewage below the existing dams within the corporation, it seems especially desirable that there be an intercepting sewer along the valley from Lake street to Clark street, and we have so designed the system to utilize the existing sewer from near Lake street to Mill street, as a part of this intercepting sewer, which will then be extended by a fifteen-inch line along Brewery lane to William street, and thence by an eighteen-inch sewer to Clark street.

It is intended that the sewage from Nelson and Fenner streets be carried down Sim's lane to Burr street, and thence under the creek to the intercepting or outlet sewer, thus avoiding the expense of a creek crossing on Nelson street, and admitting more favorable grades on the fifteen-inch line from Mill street to Albany street.

One other outlet sewer is provided; that from Factory and Sweetland streets, emptying into the creek at the lower corporation line.

The plans presented for your consideration provide almost universal cellar drainage, as well as sewerage facilities for nearly every house within the corporation limits. The sewer lines will admit such extension as to provide for the probable future growth of the village to existing and unplatted streets.

Cast-iron pipe is provided for all creek and race crossings and for those portions of the outlets extending into the creek. All other sewers are of vitrified pipe of uniform standard thickness.

A manhole or a lamphole is provided at every change of grade or alignment of the sewers, for the purpose of proper inspection of the interiors of the sewers. Manholes and lampholes are also planned for other points, where no changes occur for long distances, either in grade or alignment. An increase in grade is provided in nearly all manholes, to prevent the formation of deposits and to facilitate the flow of the sewage, which would be retarded by change of alignment on section of the sewer.

All sewers are laid upon grades at least sufficient to make the sewers self-cleansing when running one-third full, but inasmuch as the extremities of the system would carry very little sewage for some years, we have planned the system with a number of automatic flush-tanks, located at nearly all of the ends of the system.

The number of miles of proposed sewers is 7.15.

For further details of the work, we would refer you to the plans and specifications.

We estimate that the system of proposed sewers and their accessories can be built, complete, as planned, for $38,600, which includes $4,000 for contingencies, engineering and superintendence.

Respectfully submitted.

THE STANWIX ENGINEERING CO.

# HAVERSTRAW.

Plans for a system of sewers for the village of Haverstraw received the approval of the Board July twenty-seventh. The approval of these plans was recommended by John Bogart, consulting engineer, whose report, together with the plans, are printed herewith. Mr. Bogart recommended certain changes of plan, which were made by the village authorities at his request, which changes are shown on the plans approved.

*July* 26, 1893.

DR. LEWIS BALCH, *Secretary State Board of Health, Albany, N. Y.:*

Sir.—In accordance with instructions, I have examined the plans for the sewerage of the village of Haverstraw.

The plans at first presented did not extend over the whole area of the village, nor was the outlet at a point which, in my judgment, was proper. I visited Haverstraw and have had

number of interviews with the representatives of the village and with the engineer who had made the designs. The plans have been extended so as to comprise all those parts of the village which it is possible to sewer and deliver at the proposed outlet. A portion of the area embraced within the village limits is a precipitous mountain side and the system will not extend over that. The corporation limits also extend down the Hudson river beyond the territory embraced in this proposed plan. In this extension, however, there are at present no streets and very few houses. Should it be deemed desirable in the future to lay sewers in this district it must be by a different system and through a different outlet.

The plan is satisfactory, in general; it is a separate system, provided with flush-tanks. The outlet, as now indicated upon the plans, is in the waters of the Hudson river at a point where the docks extend well out into the river, and I see no objection to the delivery of the sewage into the river at this point.

A considerable area of the territory within the incorporated limits has been excavated for clay and sand for bricks, to varying depths, much of it below the level of the water in the river; this is, of course, uninhabitable, and the plan does not extend over this area.

I recommend the approval of the plans.

Respectfully.

JOHN BOGART,

*Consulting Engineer.*

# ECHOTA.

The village of Echota, a suburb of Niagara Falls, submitted plans and maps for a system of sewers and sewage disposal works, which were approved by the Board November seventeenth. The report of Consulting Engineer Bogart printed herewith fully explains the proposed system and disposal works.

As will be seen by an examination of this report and plans, separate systems for house waste, for storm water and surface drainage and for treatment of sewage by chemical precipitation are provided for. Maps and plans showing this excellent arrangement follow this report.

*November* 14, 1893.

DR LEWIS BALCH, *Secretary State Board of Health, Albany N. Y.:*

Sir.— The plans submitted for the drainage and sewerage of Echota near Niagara Falls provide for a thorough subdrainage of the area included in these plans. This subdrainage is effected by means of a system of tile laid at a depth sufficient to thoroughly drain the ground below the level of the cellars of the houses. It is conducted through these tiles to branch conduits of vitrified pipe, which are provided with manholes at proper intervals and at all angles and finally is brought to a well at the northwest angle of the village, which well is sunk deep enough and is made large enough to receive the flow from all these pipes. In addition, this system is arranged so as to take the surface drainage and storm water from the streets, inlets being provided in the gutters with suitable silt basins and connections.

Entirely separate from and independent of this system of land drainage and storm-water drainage, a system of sewerage is provided which will carry the house wastes from all structures and convey them to the well in the northwest angle of the property. This system of sewerage is provided with flush-tanks at all dead ends, with manholes at all angles and points of connection of the lines. The size of pipes and gradients are suitable to convey the house wastes and water for flushing speedily and directly to the well.

The amount of sewage will not be very great, as compared with the amount of drainage water, and it might be possible to convey this effluent directly into the Niagara river, without treatment. The dilution would be very great and it is probable that no harm would result, but the Niagara Development Company desires to protect the stream from any possible contamination at that point, and there is presented with these plans for

sewerage and drainage a plant for the treatment of all the sewage by deposition with lime and bichloride of iron, and also for the use of chlorine as a deodorent and disinfectant of the sludge. The sewage is delivered into a well 14 feet deep and of sufficient capacity for the purpose. After passing through a screen it is pumped into the deposition chambers. These chambers are duplicated so that the treatment may be continued in one chamber while the other is being cleaned. The deposition tanks and chambers have a length of 125 feet, the sewage, however, passing three times through a length of 115 feet, or 345 feet in all during the process of treatment. The lime and the bichloride of iron are automatically delivered into the sewage in proper quantities, where the sewage enters the deposition system. Provision is made for screens at proper points, and for an automatic siphonage of the treated effluent into the delivering chamber at the end of the deposition tanks. The chlorine is conveyed by perforated tubing along the bottom of the deposition tanks.

The drainage from the subsoil pipes, which also may convey storm water, is delivered into a well, separated from the sewage well by a 16-inch thick brick partition. This drainage is pumped from this well by another pump, separate from the sewage pump and is conveyed directly to the effluent chamber at the end of the deposition tanks. Here it mixes with the treated sewage effluent and thence runs, by gravity, into Gill creek, which empties directly into the Niagara river within a short distance of these works.

The details of manholes, receiving basins, catch basins and connections are also shown in the plans and are satisfactory.

Full specifications for the sewerage and drainage, with their appurtenances, and also for the sewage disposal building and the apparatus and machinery required, accompany these plans.

In my opinion, this system is in all respects fitted to secure a thoroughly satisfactory effluent and I recommend its approval.

Very respectfully.

JOHN BOGART,

*Consulting Engineer State Board of Health.*

# IRVINGTON.

Plans and specification, including several proposed changes of original plan, for a system of sewers for the village of Irvington, were received by the Board from the sewer commissioners of that village and upon the report of Consulting Engineer John Bogart, recommending approval; approved November seventeenth.

The report of the consulting engineer, and a letter from the engineer in charge of construction, Mr. Charles B. Brush, asking for further changes of plan which were approved at a subsequent meeting of the Board, are printed herewith and maps and plans follow:

A report by Consulting Engineer Bogart, relative to the additional changes mentioned, is also given:

*October* 14, 1893.

DR LEWIS BALCH, *Secretary State Board of Health:*

Sir.— In the matter of the communication in reference to the sewerage system of the village of Irvington, I beg to report that the plan submitted herewith shows certain changes in that system as approved by the State Board of Health, October 4, 1891. These changes are as follows:

1. An extension of the sewer in Harriman road, 600 feet beyond the point shown on the previous plan; this extension is to be made to protect the water-course from which the water supply of the village is obtained and a flush-tank is provided at the end of this system. This extension is a proper and desirable one.

2. A continuation of the sewer pipe along the line of the Croton aqueduct, Sunnyside lane and Broadway, connecting with the present sewer on Broadway. This is an improvement on the former system.

3. Change of location of the sewer at Schuyler's lane and through the Schuyler property. This change has been found

irable by the engineer in charge, and is also an rovement.

. An extension of the cast-iron pipe outlet south of Main eet so that it will extend 400, instead of 40 feet into the er. This change is found desirable on account of the con- uction of docks in the vicinity.

. A reduction of eight feet in the length of the outlet of sewer on the line of Fargo's lane, it having been found that river bottom at this point gives a greater depth where the tlet will terminate as now planned.

I am informed, by the engineer in charge, that this map, gether with those that have been hertofore filed with the ate Board of Health, includes all the changes made or to be ade, as far as now known in this system and that these maps mbined, show in full the plan ofthe system as it will be when mpleted.

I recommend an approval of the changes as shown upon the ap.

Respectfully.

JOHN BOGART,

*Consulting Engineer.*

*December* 15, 1893.

*the Honorable the State Board of Health, Albany, N. Y.:*

Gentlemen.—At a meeting of your honorable body held in w York city, November 17, 1893, you approved the plans owing all the changes in the sewer system in the village of ington, Westchester county, N. Y., which were proposed to made up to September 29, 1893, by the sewer commissioners the village of Irvington. Since that time, it has been found irable to make a few additional changes in that plan, which m directed by said sewer commissioners to submit to you for ir approval. These changes are as follows:

First. To build the sewer entirely of cast-iron through uyler's lane, as shown on said plan, and from Schuyler's to the man-hole 224 feet north, instead of building partly and partly stoneware sewers between these points. This nge is necessary because the foundation in which the sewer

is to be laid is so treacherous as to make the use of stoneware pipe undesirable and even dangerous to the whole system. It is cheaper and in every way more advantageous to use iron pipe for the whole of this distance, rather than for a portion of this distance, as proposed on said plan of September 29, 1893.

Also, to use cast-iron pipe from the Croton aqueduct to the first manhole, 150 feet easterly therefrom, in order to prevent any possibility of seepage from the sewer entering the aqueduct, especially in view of the fact that this point is the foot of a very steep grade, which it was feared would endanger seepage into the aqueduct, if stoneware pipe was used instead of cast-iron at this point.

Second. On Broadway and opposite Harriman's road, on the contrary, the foundation has been found to be such as to justify the laying of stoneware pipe instead of cast-iron pipe, between the two manholes south and north of Harriman road. And, therefore, permission is requested to make this change.

Third. It has also been found necessary to insert additional manholes at various points and to omit manholes at other points which seemed to be desirable last September.

Your approval is, therefore, asked as to the following changes:

To insert an additional manhole at the first angle south of Schuyler's lane, on the Barber property.

Also, at a point 224 feet north of the sewer in Schuyler's lane.

Also, on Broadway at a point 220 feet north of Abbottsford lane.

Also, on Broadway at a point 550 feet south of Barney brook.

Also, on Harriman road at a point 460 feet west of the flush-tank at the end of the sewer.

The manholes that have been found to be unnecessary and should be omitted, are as follows:

On Broadway 200 feet north of Main street.

On each side of Main street on the line of the existing sewer, which has been found to be in such condition that this old sewer will have to be abandoned.

At the intersection of Sunnyside lane with the Croton aqueduct.

Permission is requested to make the changes in the manholes, as above stated, because during the progress of the work the local conditions, as to foundation, grades and connections, have demonstrated that it is desirable that the changes should be made.

Yours respectfully.

CHAS. B. BRUSH,
*Chief Engineer Irvington Sewers.*

*January* 25, 1894.

Dr. LEWIS BALCH, *Secretary State Board of Health:*

Dear Sir.—I send you herewith, as requested by your letter, a copy of my report presented October 14, 1893, upon the Irvington sewerage. I also send herewith a letter from the engineer in charge of the Irvington sewerage, giving a full description of all the changes made in the plans for the work, which is now entirely completed.

I also beg to report that these changes are all of a satisfactory nature, and have tended to increase the value of the system of sewerage, and, in my opinion, should be approved.

Very respectfully.

JOHN BOGART,
*Consulting Engineer.*

# MOUNT VERNON.

## Disposal Works.

Plans and specifications for sewage disposal works were presented to the Board, and received its approval November 7. This matter was reported on by Consulting Engineer John Bogart, who recommended the adoption of the plans submitted, and his report is printed herewith. The report of

Mr. Bogart shows very clearly the necessity that exists for the construction of proposed disposal work, and describes minutely construction and operation of the same. Plans and maps follow this report.

*November* 16, 1893.

Dr. LEWIS BALCH, *Secretary State Board of Health:*

Sir.—I beg to submit herewith plans for the treatment of the sewage of Mt. Vernon, Westchester county.

The sewage from the larger portion of the city of Mt. Vernon is now discharged in a crude condition and without treatment, directly into Eastchester creek. The sewage from a small part of the city is now discharged, in the same condition, into the Bronx river, but I understand that the original plan of this portion of the sewage system contemplated that it should be collected in a well and pumped into a conduit of the system which discharges into Eastchester creek, this involving not a very great length of force main. The line of this force main is shown upon the sewer map and, I understand, is already laid. The population of Mount Vernon, then a village, in 1890 was reported at 10,830; its population in 1880 was but 4,586. It has, since 1890, been made a city; its population has increased constantly and probably is now nearly 17,000, and there is reason to anticipate a continued increase.

A large amount of sewage is now constantly being delivered into the Eastchester creek, otherwise called Hutchinson river, which is a tidal stream, the water salt and which, passing through Pelham Bay park, enters the sound at Eastchester bay. On the opposite bank of the stream lies Pelham Manor and above are East Mt. Vernon and Pelhamville. I have found by personal inspection that a large amount of sewage matter, paper and refuse is carried by the flood tide above the outlet of the existing sewer, and at the fall of the tide is deposited, to a greater or less extent, upon the low and marshy flats adjacent to the stream. A continuance of this condition of things will, in my opinion, be dangerous and detrimental to the health both of the city of Mt. Vernon and of all the adjacent region, which is also rapidly growing in population.

consider that it is necessary for the sanitary protection of is region that the sewage should be treated in such a manner to secure an effluent which shall in no way injuriously affect e stream. The plans which are herewith submitted will, in y opinion, effect this result in as economical a manner as is acticable. They provide for the deposition of the solid mat- rs of the sewage in tanks or settling chambers, the size and ngth of which have been determined as efficient for this pur- se in this locality and with the amount of sewage that may expected. Provision is made for the treatment of the inflow- g sewage, with lime and with bichloride of iron. In addition , or instead of, the lime or iron, other disinfectants or germi- des may be used should experiment or experience in the future etermine that others are more desirable. This lime and ichloride of iron are delivered to the sewage automatically nd in general the works are so arranged as to be conducted at very small cost for attendance.

Provision is also made for the delivery of chlorine by means f perforated pipes along the bottoms of the settling chambers. his has proved to be an effective method, both for deodorizing nd for disinfecting the sludge. The arrangements for removing he sludge are simple and are so planned as to deliver the sludge t the side of the works, whence it may be either spread upon and, or a furnace may be built by means of which it can be, hen mixed with sawdust, economically and rapidly disposed of.

The sewage upon entering the works is conducted through hambers 10 feet in width and with an aggregate length of 00 feet, thus securing a sufficient retardation of flow and giving mple time for thorough and complete deposition of solids, hese chambers deliver through a regulating weir into a tank t the lower end of the works, which tank is automatically mptied by a siphon, at intervals, dependent upon the amount f sewage; the treatment with chemicals is made also automati- lly in connection with the periodic discharges of this effluent nk. From this siphon the effluent is conducted directly to e stream. All of the works above described are in duplicate, ere being altogether 1,200 feet in length of depositing cham-

bers, 600 feet of which are in use while the other half are being cleaned and put in preparation. The location of these works near the foot of Fulton lane, through which the present sewer is carried, is fortunately such as to enable all of the operations above-described to be conducted by gravity and thus to avoid the great expense which would be incurred if all the sewage had to be elevated by pumps.

As shown by the plans, these tanks are not provided with a building over them, this not being considered necessary. Should it be found desirable, at any time, to cover these tanks this can be done by simply putting a deck floor over them; there will be no necessity for a building of the length and width of these tanks.

Two buildings are shown, one at each end of the tanks; these are necessary to provide for the requisite operations connected with the works. The one at the upper end shelters the four cholorine generators and the valves or gates which provide for the use of one or the other settling conduits. The building at the lower end covers the pumps for elevating the sludge, with the necessary boilers, the tanks for chemicals and the siphons and valves which are used in the discharge chambers and in draining them when they are to be cleaned out. The plans also show a line of tracks extending along the whole length of the settling chambers, upon which tracks will be run the cars conveying the deposited material, or sludge. These tracks terminate in two elevators by means of which the cars are lifted and taken to an overhead railway and thence to the outside the building to be disposed of, as indicated in the former portion of this report.

I recommend the adoption of the plans submitted.

Very respectfully.

JOHN BOGART,

*Consulting Engineer.*

# INVESTIGATIONS BY ORDER OF THE GOVERNOR.

# In the Matter of the Flatbush Sewer.

**Hearing before a Committee of the State Board of Health, held at the Hall at Flatlands, June 14, 1893.**

Dr. Balch, as executive officer of the State Board of Health, opened the hearing in the case of the outlet of the sewerage system of Flatbush, the outlet being in the town of Flatlands. Dr. Balch then read from the petition of the board of health of the town of Flatlands to the Governor of the State of New York. Also the direction of the Governor that the examination asked for be made by the State Board of Health. Also read from the law, section 6, article 6.

Dr. Balch.—I would suggest for the examination before this committee that the petitioners can present their case and the witnesses they have will, of course, be sworn before it, and then the sewer commissioners and the street commissioners of the town of Flatbush who have been subpoenaed can present their witnesses and make their statements.

Mr. Jennings, of the sewer commission.—On behalf of the sewer commission, I have to request for my people a reasonable postponement for this reason: I have had no notification of this investigation until last night about 7 o'clock. We have had no opportunity to be represented here by counsel; we have had no opportunity to get our witnesses here, and we are not in a position to do anything to-day in the way of informing the committee or giving them any light on the subject.

Dr. Balch.—I would say that I sent a man down to subpoena you gentlemen on Monday. I sent him Sunday with orders to go out to Flatbush sharp and early Monday morning and see you, and I gave him very specific instructions, but instead of taking instructions entirely from me he assumed to take them also from the subpoena, which of course read the village of Flat-

lands, town of Flatlands, and when he came down he considered that Flatbush had nothing to do with it, so he subpoened carefully the town commissioners of the town of Flatlands or you would have had your notice on Monday morning.

I would recommend that if you are willing we go on with the hearing so far as we can to-day, and then of course take an adjournment so that you can present your case and I can furnish you, or your counsel, with a copy of the testimony.

Mr. Cleveland (of Evarts, Choate & Beaman).—In behalf of the petitioners, I hardly think that would be considered fair to the commissioners of the town of Flatbush, they having no opportunity of cross-examining our witnesses, which I think they are entitled to. As they have had such short notice we would not oppose any such adjournment, but we would ask that the time be set as early as may be, for we feel that this matter is a menace to the public health of the community, and that action should be taken by the State Board of Health as soon as possible.

Mr. Jennings.—I was about to say, in order that the time of the committee should not be wasted, Mr. Brown here has his carriage, and he has expressed a willingness to place it at the disposal of the committee so that they can make a personal examination of the sewer.

Dr. Balch.—So far as the time of the adjournment is concerned, it would be impossible for me to hold the meeting until next week. I have to be in Albany to-morrow and Friday and in ..... on Saturday and Sunday, and in Herkimer county on Monday, so it will be impossible for me to get here again until next Wednesday.

Mr. Cleveland.—That would be a reasonable adjournment.

Mr. Jennings.—Is it not possible for us to meet in some more convenient spot than the town of Flatlands, in Brooklyn, for instance?

Mr. Cleveland.—I think we had better meet here; if we were to meet in Brooklyn we would be subject to interruptions.

Mr. Rowe.—We should have to convey dozens of people from here to Brooklyn.

Dr. Balch.— I think we had better adjourn to meet here a week from to-day. Then all those who have been subpoenaed to attend this hearing and examination before the State Board of Health will attend again, at half-past 10 o'clock, on the morning of Wednesday next, the twenty-first instant, in this same place.

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## Hearing before the Committee of the State Board of Health, June 21, 1893.

Present.— Cyrus Edson, M. D., member of the State Board of Health; Lewis Balch, M. D., secretary of the State Board of Health; Messrs. Evarts, Choate & Beaman (by Messrs. Cleveland and Rowe), representing property owners; John B. Shanahan, Esq., (of counsel), representing the board of sewer commissioners of the town of Flatbush.

Mr. Shanahan.— I represent Mr. Gaynor, who will appear on the part of the sewer commissioners of the town of Flatbush. I understand that Mr. Cleveland expects to present his side of the case here. We are not ready to present our side of the case, and for this reason, that we have no knowledge of any notice that has been served upon us as to what this investigation is about, and until the people who have instituted this investigation, or have caused it to be instituted, have presented their side we will not be able to present any evidence in behalf of the street and sewer commissioners of the town of Flatbush in opposition to them. We do not know the nature of the complaint in detail, no papers have been served upon us, no statement of what is to be served on us in writing and we only know by hearsay what the investigation is.

Dr. Balch.— Last week I met the sewer commissioners here and it was stated clearly what the investigation was for. I read the petition to them that day, and then they asked an adjournment so that they might subpoena witnesses and be ready to go on to-day, and the adjournment was made for a week, so that they would be ready.

Mr. Wm. Brown (of the sewer commissioners of the town of Flatbush).— I consulted my counsel in regard to it, Mr. Gaynor,

and he said: "Better hear what the other side have to say, and we can defend."

Dr. Balch.—At the proceedings last week, Mr. Jennings said (read from the minutes of proceedings):

"On behalf of the sewer commissioners I have to request a reasonable adjournment for this reason, we have had no opportunity to get our witnesses here, I have had no notice of this investigation until last night about 7 o'clock; we have had no opportunity to be represented here by counsel, and we are not in a position to do anything in the way of informing the committee or giving them any light upon the matter," and I replied:

"I sent a man down here to subpoena you gentlemen on Monday; I sent him Sunday, with orders to go out to Flatbush and see you early Monday morning, and gave him very specific instructions, but instead of taking his instructions entirely from me he assumed to take them also from the subpoena, which, of course, read 'village of Flatlands, town of Flatlands,' and when he came down he considered that Flatbush had nothing to do with it, so he subpoenaed carefully the town commissioners of the town of Flatlands or you would have had your notice on Monday morning."

And it was suggested that we could go with Mr. Brown in his carriage and inspect the sewer. An adjournment was taken, and I gave notice here that all those who had been subpoenaed to attend should attend again at half-past 10 on the 21st instant, in the same place. The subpoena did not say anything but that the meeting would be held in this place, but at those proceedings I read the petition referred to, and it seems to me that not only did the sewer commissioners know about the matter of this investigation, but they have had the time asked for to get ready.

Mr. Shanahan.—I was informed by Mr. Hendrickson, who, I understand, is interested in the case, that the reason for the adjournment was that the board of street and sewer commissioners was not represented by counsel and the adjournment was made to to-day at half-past 10 o'clock; we being also in the matter it is unfortunate that this date has been assigned, for

the reason that Mr. Gaynor is actually engaged to-da
trial of a case in the Supreme Court of Kings county, B
it would be impossible for him to attend here, but I am
willing that the petitioners here should present their
the case, the defendant cross-examining; it seems to
will then know just what we have to meet, just what th
of the testimony is. If it is any inconvenience for t
missioners to come way down here to Flatlands and an
venience to the eminent counsel on the other side, w
have the investigation either at Mr. Gaynor's office o
office of Evarts, Choate & Beaman, at New York. It d
to me that this is not a matter to be closed up to-day;
to me the people of the town here expected it would t
or three days, and I think it was the understandin
street and sewer commissioners that we would have
present their testimony. We don't know that it would
sary to present any testimony. It seems to me we ought
time, we ought to have a transcript of to-day's minutes
into it carefully and have time for deliberation; the couns
street and sewer commissioners and the engineers of the
Flatbush should have time for council.

Mr. Cleveland.—There are two reasons, it appears,
Flatbush commissioners are not ready; in the first pl
do not know what the complaint is. It is a matter
notoriety for some time what the complaint is and I
doubt they have seen copies and have copies in their po
Seeing that they could get copies and seeing that their
were hardly sufficient, they now say that Mr. Gaynor is
in a trial at a city term. This is a case of public im
where the health of the community is seriously menac
not a trifling case. I was quite willing that an adjo
should be had last week in order to give them the fulle
tunity. It was the suggestion of Dr. Balch that we g
take the examination last week, I suggested that the
counsel should have the fullest opportunity for cross-ex
witnesses and I respectfully insist upon not only pr

but closing this investigation. They are as well aware of the investigation as they will be. Mr. Brown is now present, who inspected the cause of the complaint with the State Board of Health and looked into the matter. It seems they ought to be well prepared.

Mr. Wm. Brown.—I took the gentlemen of the State Board of Health with me last Wednesday and we went down and made an examination of the state of the sewer and we found that there were a couple of leaks in the boxes, so it was discharging in the middle. I asked Mr. Rowe if he was willing that we should go on and repair the boxes and I gave orders to have those boxes repaired. That remedies one defect.

There is another complaint about the gas company discharging into the sewer. When I went home I investigated that and I found there had been no connection with the sewer for about four weeks. This old deposit bubbles up.

Mr. Cleveland.—We are not speaking of the merits of the case.

Mr. Brown.—No; I only state what took place when we went down to make this examination.

Mr. Shanahan.—It seem to me Mr. Brown has given another reason why we should not be compelled to close our side to-day. If the complaint is about the box sewer, let them tell us just where the leaks are and where the stuff from the sewer is to be discharged and the sewer commissioners, in a week, would be able to repair them; then in a week we can come and tell them what we can do, at least.

Dr. Balch.—I will say that, so far as the sewer commissioners not understanding what the matter of this investigation is, on September 24, 1891, the Board of Health of the town of Flatlands, met and passed certain resolutions, which were served upon the sewer commissioners and published in the daily papers of Flatlands and Flatbush. There was an order passed at that time, at the instance of the State Board of Health, to prevent the further construction of the sewer. So it seems to me the sewer commissioners are pretty well aware of this matter.

Mr. Brown.—At that time, when the paper was served, it was served six months too late; the sewer was built and in operation.

Dr. Balch.—Was the sewer built in September?

Mr. Brown.— The sewer was built and in working order and the connections made at the time of the service of the papers.

Dr. Balch.— Then it appears to me that the town of Flatbush knows something about what this investigation is for.

Mr. Shanahan.— Don't the commissioners see the importance of knowing accurately in detail?

Dr. Balch.— I think the investigation can go on, whether it can be closed or not.

Mr. Shanahan.— I just want to state in advance my position. I don't want to put the witnesses here to any undue inconvenience by asking for an adjournment; I am perfectly willing that the petitioners go on and present their case.

Mr. Cleveland.—When the time comes for an adjournment I will have something to say.

J. S. Schenck, a witness called on behalf of the petitioners, being first duly sworn, testified as follows:

Direct examination by Mr. Cleveland:

Q. What is your occupation? A. Town clerk of Flatlands.

Q. How long have you been town clerk? A. Since the 19th of January, 1891.

Q. Do you recollect the service of certain resolutions of the board of health of the town of Flatlands which were passed on the 24th of September, 1891? A. Yes, sir.

Q. Did you, as town clerk, take any action in relation to the service of these papers? A. Yes, sir.

Q. State what you did in relation thereto? A. Whom did I serve the copies on?

Q. Whom you served and when? A. I served copies on Mr. Lyon, Mr. Randolph, and I served it on Mr. Henry Hesterburgh, then one of the sewer commissioners; James Ryan and Mr. William Brown and F. O. K. Gleason.

Q. Look at this paper and state if the paper you served on each one of these gentlemen was a copy of this paper? A. Yes, sir; to the best of my knowledge and belief.

A copy of the resolutions passed by the board of health of the town of Flatlands on September 24, 1891, was offered in

evidence, received and marked "Exhibit A, June 21, 1893;" this exhibit is incorporated in Exhibit H.

Q. Were these resolutions subsequently published in any paper in this locality? A. Yes, sir.

Q. In what paper? A. I think in the Kings County Journal and the Flatbush Press.

Copy of resolutions as published in the Kings County Journal offered in evidence, received, and marked "Exhibit B, June 21, 1893."

Dr. William S. Kromer, being duly sworn, testified as follows:

By Mr. Cleveland:

Q. How long have you been a physician? A. Since 1882.

Q. How long have you been practicing in this locality? A. In the town of Flatlands?

Q. Yes. A. Eight years.

Q. You know the sewer that runs through Flatbush avenue, the sewer in question? A. Yes, sir.

Q. Have you ever made any examination or investigation of the sewer and its outlet? A. Yes, sir.

Q. How often have you made an examination, if more than once? A. I saw it some time in September, 1892.

Q. You are the local health officer? A. Yes, sir.

Q. When appointed? A. October, 1891.

Q. For the town of Flatlands? A. Yes, sir.

Q. Did you make this examination as such health officer? A. Yes, sir.

Q. When did you make the next examination? A. In March of this year.

Q. Since March of 1893 have you investigated the matter at all? A. Not since March.

Q. Now will you be good enough to state in your own way what you did and what you ascertained on the first examination? A. On the first examination the sewer commissioners of the town of Flatbush were there already, were opening the manholes and taking the refuse from the sewer and dumping it along the sewer.

Q. Where were the manholes? A. The manholes are about 100 feet apart, and we would take one right along a heap of stones there; opposite this building is one; if you travel 100 feet in that way you will find a manhole, and if you travel that way, one.

Q. Will you state if the tops that were taken off the manholes were at the outlet of this sewer from this locality, or toward Flatbush; where were the manholes that were being opened? A. They were working from the outlet toward Flatbush.

Q. Did you examine at the manhole nearest the outlet first? A. No, sir; when it was brought to my notice they already had been as far as Vandeveer, that is a good ways out, or three or four thousand feet of it towards Flatbush.

Q. State exactly what you saw? A. In the afternoon I saw there three men; Judge Hendrickson and Mr. Brown were with me and when they saw us coming, approaching toward the sewer, they stopped; there was one man in the sewer then, in one of the sewers was a man and they had a wooden horse to hoist the pail up; they had a pail with a rope and they were taking the material in the sewer out. I went in the sewer to see what was actually in there and floating in there; I brought up human excrement.

Q. When you speak of Mr. Brown, what Brown do you mean? A. Nicholas W. Brown, member of the health board.

Q. What else did you find? A. I found, going towards the outlet at every manhole, the material which has been taken out with that pail and dumped alongside the manhole; at some places there was a little sand thrown over but the material being wet, it soaked down.

Q. What was the material? A. It was a stinking substance.

Q. How far down did you go in the outlet below the locality of this house; how far down towards the outlet of the sewer? A. We went to the culvert of the sewer, the wooden boxes, and opened a good many manholes.

Q. What did you find; did you examine the substance in the sewer? A. Only in that one manhole on that particular day.

Q. Did you, on this examination, do anything else? A. I had the men arrested.

Q. The men arrested who were taking the stuff out of the sewers? A. Yes, sir; I had arrested Mr. Bray, presumably the master and the contractor of the sewer.

Q. On what complain? A. On dumping nauseous substances on the highway in violation of the ordinance of the local health board.

Q. Before whom was he brought? A. Before Judge Hendrickson.

Q. What was the result? A. The result was that the lawyer for Mr. Bray appealed; that as Judge Hendrickson and Mr. Brown were with me when I made the investigation it might be presumed that Judge Hendrickson might be somewhat biased, he being with me, so on this ground the case was dismissed; I then swore out a warrant against those men, they were brought before Judge Wilson and were convicted.

Q. Were they fined? A. The sentence was suspended but they were convicted.

Q. On that occasion, when you came out of the sewer, did you walk over the wooden trunk sewer out to the outlet? A. I can not remember that.

Q. Who were with you on this occasion; state again? A. Judge Hendrickson and Mr. Nicholas W. Brown.

Q. The occasion of your next examination was in March, 1893? A. Yes, sir.

Q. Please state what examination you made and what was the result? A. Subsequent to that arrest the local health board appointed as a committee Judge Hendrickson and Mr. Brown as a sewer committee; Judge Hendrickson was chairman, and whenever there was anything particular going on Judge Hendrickson directed me to investigate; I received some time in March a letter from the chairman of the committee on sewers to examine that sewer on that particular day; the day was rainy and sloppy; it was just breaking up a little after the ice; I went to the outlet of the sewer and the passage of water was enormous; I was surprised how it could be; there was also coal tar; I noticed the sewer was all trickling out.

Q. All the way down as you passed along? A. More or less; yes, sir.

Q. You mean through the wooden sewer? A. Yes, sir.

Q. Who were with you? A. I was there alone.

Q. How long did your examination last? A. During probably half an hour; it takes a pretty good long while to get over the trusses of the culvert.

Q. Please state what examination you made and what you ascertained? A. Later on I again received word from the chairman of the committee on sewers that they would have a special meeting, and the special meeting was the examination of the mouth of the sewer.

Q. When you speak of the mouth of the sewer you mean the mouth of the wooden trunk? A. Yes, sir; the outlet.

Q. State what you did? A. When I got to the entrance of the sewer there was a gentleman there with a heavy black mustache; he had a boat, and I asked him if he would not be kind enough to let me go in that boat; I would like to go in that sewer as far as I could from the mouth; there was nothing running out at that time; the boat lay in a foot of water and the rest you had to walk; each time when any one walks you see the gas and tar bubbling up and the afmosphere became impregnated; I saw rags or something of that kind and pieces of paper, and then I went in the sewer; in the sewer I could walk some distance; the daylight shows all between the cracks; there was no discharge of the sewer at that time.

Q. How many feet into the sewer did you go? A. I went in probably some 250 feet.

Q. Did any one accompany you? A. No, sir; I went in alone.

Q. Did you make any investigation of the manholes on that day? A. Yes, sir.

Q. Will you please state what you did? A. Judge Hendrickson and Mr. Brown and that gentleman with the boat—.

Q. Mr. Samuel Hoffmeier; this gentleman here? A. Yes, sir; we opened some manholes.

Q. Where were these? A. They were between the wooden sewer and this building.

Q. State what you found. A. We took a stick, and on the end of the stick we put a piece of rubber; I told them that would not do, because coal tar and rubber smelled pretty near alike, so we would have to take something else; we got a rag and put it on the end of the stick and put it into the sewer and into the bottom of the sewer; I was satisfied, and I dipped it up in a can; there was human excrement and tar at the bottom of the sewer.

Q. There was a flow at the bottom of the sewer? A. There was a flow there; there is a flow at the culvert and then it is lost between the end of the brick sewer and the end of the culvert it all loses, and you can hear it drip, and at times you can hear — if you take a washtub and you went there a good deal of water will run in it; the worst leak is at the second turn.

Q. It flowed out of the wooden sewer before it got to the mouth? A. Before it got to the mouth.

Q. Did you make any other examination at the mouth concerning the condition of Mill creek? A. None other; as I just stated, there was goods and pieces of paper and orange peel.

Q. How far from the mouth? A. A short distance, probably as the room here; but it was very low water.

Q. Did Mr. Hoffmeier walk around at the bottom; you say where he made the tracks you saw the gas rise? A. That was probably 150 feet before you would get to the mouth of the sewer.

Q. One hundred and fifty feet out? A. On this side.

Q. What was the date of your last investigation? A. It was in March, but I do not know the date.

Q. March, 1893? A. Yes, sir.

Q. Then you made two investigations in March? A. Yes; I made a report at the time to the local health board.

Q. In writing? A. In writing; yes, sir.

Q. Where is the report; do you know? A. I gave it to the secretary, and it has been referred; at a meeting of the Board.

Cross-examination by Mr. Shanahan:

Q. May not that investigation have occurred in February of 1893; are you at all accurate about the month? A. No, sir; I am not at all accurate.

Q. How soon after you made the investigation did you make the report? A. Immediately; probably a day after.

Q. It might have been in February? A. If I had known you would ask me that I would have brought my notes with me.

Q. You can not say whether it was in February or March? A. It was just after the breaking up of the ice.

Mr. Rowe.— We will get a copy of the report and give you a copy and put one in evidence here.

Mr. Shanahan.— I am willing to let it stand as it is now.

Dr. Balch.— I would like to ask the doctor one question. The condition you found when you made these two examinations of the sewer and the contents of it, where it did not discharge into the creek, but, as you say, leaked out — did you find it to make a nuisance, a danger or menace to health?

A. The piece of rags and discharge from the sewer naturally would imperil the health.

By Mr. Shanahan:

Q. There was nothing else but what you testified to? A. I testified to what I saw, sir.

Nicholas W. Brown, called on behalf of the petitioners, being duly sworn, testified as follows:

By Mr. Cleveland:

Q. What is your occupation? A. I am an inspector.

Q. Where do you reside? A. In the town of Flatlands.

Q. Are you familiar with the sewer question? A. Yes, sir.

Q. Have you examined the wooden trunk sewer from the end of the brick sewer to the outlet? A. I have been on it with Dr. Kromer.

Q. On what occasion and how often and what was the result of the examination? A. We went there twice but I could not exactly tell the time because I did not keep any account of the

dates; I think one was in the spring of this year and one was
the fall.

Q. State what you found? A. We found that the sewer w
badly built, that it was all open and you could see daylig
anywhere; the doctor went over it.

Q. Did you make any examination of the neighborhood
the outlet of the wooden trunk sewer? A. We did not
off the top of the sewer; we only saw Mr. Hoffmeier take off t
refuse.

Q. How far from the outlet was that? A. It was this si
of the mouth of the wooden trunk, 100 feet or more; I could n
exactly say.

Q. The second examination that you made in the spri
what did you ascertain then? A. That was the time
examined the mouth of the manholes, walked up and open
some of them and got refuse out of them.

Q. What did you find in the sewer, coal tar and hum
excrement? A. Yes, sir; both.

Q. How many manholes did you open? A. Several; I co
not say how many.

Q. At this time was there any sewage from the mouth of t
wooden sewer? A. No, sir.

Cross-examination by Mr. Shanahan:

Q. Can you state exactly the month in which you made t
examination? A. It was either February or March, I co
not give the exact date; it was in the spring; this spring.

J. J. R. Croes, called on behalf of the petitioners, being d
sworn, testified as follows:

By Mr. Cleveland:

Q. What is your occupation? A. Civil engineer.

Q. How long have you been a civil engineer and where
you practice your profession? A. Thirty-five years; in t
city of New York at present.

Q. Have you made any examination of the outlet at the o
let of the Flatbush avenue sewer, the sewer in question?
Yes, sir.

Q. Will you please state clearly what examination you made and what was the result of the examination when you made it? A. The examination made since the construction of the sewer was made on the 14th of June, 1893, in company with the secretary of the State Board of Health and the engineer of the State Board of Health.

Q. That was a week ago? A. That was a week ago.

Q. When was the first examination made? A. In June, 1891; I was called upon to make an examination of the condition of Mill creek, the flow of the currents in it and the probable effect that would be produced on the creek by the discharge of sewage into it, according to the proposed plan of the outlet sewer from the town of Flatbush.

Q. By whom were you employed to make this investigation? A. By Evarts, Choate & Beaman, the counsel for certain petitioners, as I understood.

Q. That investigation was in June, 1891? A. June and July, 1891.

Q. You made a report at that time, did you not, of the result of your investigation? A. I made a report on the 15th of July, 1891, in writing, accompanied by a map.

Q. Look at the paper which I now show you and state whether this is your original report of your investigation upon that occasion? A. This paper which I hold in my hand is the original report which I made on July 15, 1891, with reference to this matter.

Q. Look at the paper which I now show you and state if the letter addressed to Evarts, Choate & Beaman is a letter written by you? A. That letter was written by me; it was a letter transmitting a plan or drawing showing that part of the town of Flatlands which extends from the mouth of the Flatbush avenue sewer and from above that to Coney island and the Rockaway inlet.

Q. And the plan I will now produce is the plan or map referred to? A. It is the map referred to in my letter and in the report of July fifteenth.

Mr. Croes' report relating to Flatbush sewer outlet, dated July 15, 1891, the letter transmitting this report and map accompanying the same was offered in evidence, received and marked "Exhibit C, June 21, 1893;" this report and letter are incorporated in Exhibit H.

Q. Are the statements in this letter true, Mr. Croes? A. They are, to the best of my knowledge and belief.

Q. You made a careful investigation of the facts, did you not? A. Yes, sir.

Q. The facts stated in that report, according to your best knowledge, are true, are they not? A. They are.

Q. When did you make the next investigation? A. On last Wednesday, the 14 of June.

Q. Will you please state exactly what you did and what you ascertained in the investigation; you have stated who went with you; please state what you ascertained? A. In company with Dr. Balch and Mr. Bogart I went down and we drove up along the end of the brick sewer and looked down a manhole, the cover of which had been removed; there was several inches of water flowing with quite a smooth current, that water being evidently sewage water from its color and general characteristics; there were a few stones lying in the bottom of the sewer, which had been placed in or thrown in, and caused a ripple in the water, showing the current very perceptibly; at the extreme end of the brick sewer another manhole was examined, and water was found flowing in the sewer at that point also; we then proceeded over the wooden trunk 1,300 feet in length, and where the trunk was practically immersed in mud the water was seen flowing in the bottom to a depth, as I remember, of about two inches; on passing points at which the natural current was below the bottom of the trunk the sound of trickling water was heard and there appeared to be a slight current of water proceeding from under the bottom of the sewer, passing under it; the mud was very soft on both sides and it was impossible to get down to the bottom to see what the cause of this trickling sound was and whence it proceeded; it was evidently water dropping from somewhere into other water; the mud flats were becoming

xposed from the subsidence of the tide and along the sides of he sewer, the coves and bays and flat places, there was an vident deposit of a matter which, from previous experience in ich matters, I should judge to be produced by sewage, to come om sewage which had been put into salt water; it had the ppearance of such a deposit which is caused by sewage dis- harged into salt water; as the mouth of the sewer was pproached the sound of running water was more and more pparent, and at some places water could be seen evidently trick- ng through the sewer and dropping into the water below; at e mouth of the sewer no water was flowing, the bottom being ntirely bare.

Q. The bottom of the sewer? A. The bottom of the sewer eing entirely bare; the surface of the water in the creek was elow the bottom of the sewer at that time and there was no ater at all running out of the sewer.

Q. At this time did you make any investigation of the condi- on of the bottom of the creek; of the water around the mouth f the sewer? A. While standing on the end of the trunk we bserved bubbles rising to the surface and breaking and forming n iridescent scum on the water; bubbles of air rising up hrough the water, breaking at the surface, and then there were ngs spread out from them of various colors, brilliant colors; uch breaking of bubbles and such a scum as is produced by oal tar products; in company with the secretary and the ngineer of the State Board I entered a boat then, and was owed up and along the banks of the stream, of Mill creek, and cross it; crossing the stream several times and stirring up the ottom with an oyster rake at frequent intervals; this was for he purpose of finding whether there was any deposit of foul natter at the bottom of the creek in that vicinity which would ause such an ebullition of gas as had been observed opposite he mouth of the sewer, which the president of the board of ewer commissioners stated had come from some smelting works hich were situated at Mill creek a considerable distance bove the mouth of the sewer; the bottom and shores of the reek were very fully examined in that manner up

to a point where it was impossible to produce any ebullition of gas by raking up the bottom. That point was found to be at the northerly end of the inlet of a marshy creek, into which the floats which had been put in on flood tide of June 30, 1891, had passed.

Q. Can you mark that point upon the map, Exhibit C.? A. The most northerly point at which any ebullition of gas or appearance of iridescent matter in the bed of the stream is to be found is marked "A" in ink on the map of July 15, 1891.

Mr. Croes so marked map in Exhibit C.

Q. And in evidence here as Exhibit C? A. North of that point we were unable to produce any rising of gas from the bottom.

Q. That is to say, going toward the smelting works you found no further ebullition? A. No further ebullition or evidence that there was putrescent matter deposited in the bed of the stream.

Q. You used the oyster rake right along? A. The oyster rake was used very frequently, not only near the shore where the water was very shallow, and where the oars stirred up the mud, while this stirring up of the mud was very carefully watched by all three persons in the boat; nothing was found north of the point "A," but below that, in passing down the stream, both in the shallow channel and on both sides, the evidence of pollution as indicated by the bubbling up of gas and the breaking of bubbles on the surface, generally causing this iridescent scum appearance, increased.

Q. How far below the mouth of the sewer did you go? A. Increased down to the mouth of the sewer and a short distance below that, perhaps some 200 feet and at that point just below the mouth of the sewer, the same action was in the water, as the oarsman rowed the boat it would stir up this gas and the whole boat was surrounded with this scum of matter; and on the bottom of the creek there was a decided deposit of coal tar products, which were brought up with the oyster rake and the oysters were brought up completely covered with it, it would drip into the boat, would make a little pool of coal tar in it.

Q. If you have anything further to state as to your examination on this date please do so. A. When in the boat and at such point that the long trunk of the sewer would be seen as it crossed the marshes and creeks, the water from the sewer was seen by us, leaking out from the bottom of the sewer wherever it appeared above the water, for a considerable distance back from the outlet and, as above stated, there was no water running out of the sewer at this outlet; the interstices between the planks were quite large in some places and in one instance, it was on the side of the sewer about two feet or two and a half feet above the bottom, a plank was out, was gone entirely, so that if the tide had been up the tide would have flowed right into the sewer, or any matter that was in the sewer would have flowed out on the receding tide through the side of the sewer.

Q. How long did this examination occupy? A. I think we were out about two hours.

Q. Is Mr. Brown, whom you have mentioned as with you upon this examination, the gentleman who is now present? A. Mr. Brown is now present.

Mr. Shanahan.—Mr. William Brown, treasurer of the sewer commissioners of the town of Flatbush.

By Mr. Cleveland:

Q. Is it your conclusion that this putrid matter that you found in the water and about the mouth of the sewer came from the sewer? A. Yes, sir.

Q. Will you please describe the character of this matter more fully; was there anything else? A. Of the matter which was brought up from the bed of the creek?

Q. Yes? A. I can hardly distinguish between the mud, the offensive mud which was evidently a deposit from sewage, there was a good deal; but the coal tar was a separate matter entirely from that, and was found in the boxes, more as if it had been a mass coming out at a time and been deposited there.

Q. Did you find rags and closet paper and such material as ordinarily comes from a sewer there? A. In the sewer there was such matter floating.

Q. Did you see any along the sides of the sewer as you passed down over the wooden trunk? A. I don't remember exactly whether I did or not; I know that, without being able to describe the material exactly, the impression produced upon my mind was that there was sufficient evidence of a sewage discharge at that point to enable me to swear to it.

Q. Your nostrils, as you went along, detected such deposit? A. It was very offensive, such as deposit found in a sewer.

By Mr. Rowe:

Q. Will you look upon that package and say whether that represents a portion of the material which was raked up from the bottom of the creek? A. That resembles it, and, yes, I do identify that as having been brought up by Mr. Bogart with the oyster rake directly in front of my eyes; that was just below; that was 100 feet below the mouth of the sewer and in the channel of the creek, and the rake was charged on the occasion of the upbringing of this with coal tar and it dripped down to the bottom of the boat and on to the side of the boat.

Q. Those are oyster shells covered with what? A. They brought up oyster shells covered with coal tar.

Q. The odor is offensive; is it not? A. The odor is the odor of coal tar and sewage and bad oysters.

This material was offered in evidence and marked "Exhibit D, June 21st, 1893."

Q. What experience have you had, Mr. Croes, in the investigation of sewers and their discharge and the proper method of taking care of sewage? A. Well, it is a little difficult to specify in detail; examinations and investigations extending over a great many years in which I have been engaged in the examination of sewerage and sewage disposition and have prepared plans for sewers and for the disposition of sewage in a number of cases.

Q. And in the matter of sewage and the disposition of sewage and the proper construction of sewers and their outlets you consider yourself as having the knowledge of an expert? A. Yes; I think so.

Q. It is a portion of your regular business? A. A very large portion of my business.

Q. And for a number of years; how many? A. Perhaps twenty years.

Q. Will you please state to this Board of Health what your judgment is in relation to the construction of this sewer and its outlet; is it a proper method of disposing of the sewage that comes out of that sewer? A. I do not consider it so.

Q. Have you examined this sewer and its outlet with sufficient detail to enable you to say where that sewage matter coming out of the outlet of the wooden sewer, must go or deposit itself? A. Yes, sir.

Q. You made a report on that subject in 1891, as to what you thought would be the result of the construction of the sewer in the manner in which it has been constructed? A. Yes, sir.

Q. Have your subsequent investigations tended to modify or confirm the expression of opinion expressed in that report of 1891? A. The examination which I made a week ago showed that, as far as it extended, the predictions which I had made in 1891 had been fulfilled to the letter and those predictions were not made on any matter of mere theoretical judgment, but made as the result of actual examinations of the manner in which the tidal currents flowed at the outlet of the sewer.

Q. And as the result of experiments which are mentioned in that report? A. Those experiments are detailed fully in that report and they show, in that case, not only the course that the sewage must necessarily take at certain stages of the tide in coming out of the sewer, but the opinions which I formed then as to the ultimate disposition of the sewage were fully confirmed by the facts in the case; there is evidence that a large amount of sewage is now being stranded at full tide along the shallow shoals which run through the mud through which this trunk passes.

Q. In your judgment this must of necessity be the case, owing to the natural conditions of the current and of the tides? A. It must necessarily; on the rising tide there is discharged into this volume of salt water, almost of the density of sea water,

which passes up the channel of the creek, there is discharged a large amount of sewage which is of a less specific gravity than the water into which it is discharged; it is lighter; a million gallons of this sewage which is discharged would weigh, as nearly as can be estimated, about 3,725 tons, and a million gallons of the water into which it falls weighs 3,825 tons; there is a hundred tons more weight in a million gallons of this water in the stream than in the sewage discharged into it, so that this sewage must rise, must float to the surface, and the surface water as it comes up, as the tidal wave comes up, is rounded; the center is the highest, and this light matter is thrown up to the surface and thrown over towards the outside edges; it runs up against the shore and is kept up against the shore up to the time of extreme high tide and is confined in the various channels; this is a different case from putting sewage into fresh water.

Q. As the tide recedes what becomes of the sewage? A. The sewage is left; the sewage is on the surface; there is no current; it is a mere subsidence, and the sewage is left in the shallow places around the edge of the water.

Q. In your judgment, must this necessarily continue to be the case as long as the construction of the sewer is what it is? A. I think it must; and moreover, as this sewage takes on this fresh water flowing down from the inlets, that fresh water is lighter than the sewage because in a million gallons of the sewage there is three or four tons more of solid matter than in a million gallons of the fresh water, so that the sewage is lightest at first, but when the fresh water of the springs comes down there it has a tendency to settle at the latter part of the tide.

Q. The disposition of the sewage would be the same as you have described, supposing that the wooden sewer were properly repaired and made solid so as not to leak? A. It would be the same in kind but not so great in degree.

Q. And on the supposition that the wooden sewer were properly repaired so as to be made solid, with the outflow of that sewage at the mouth of the wooden sewer, would the sewage take the course that you have described in your report and

it you have found on investigation it had taken, so far as n can judge; would it continue to take that course? A. I e no reason to doubt the conclusions which are stated in my port of July 15, 1891, in any respect.

Q. In your judgment, is the discharge of sewage, as you found , not only along the sides of the wooden sewer, but at the out- t and around the outlet in the neighborhood, a menace to the ealth of this community or not?

Objected to by Mr. Shanahan, on the ground that the witness not competent. Question allowed. Exception taken.

A. Whether it would affect the health of the community or ot is a question that I do not feel able to decide; that it ould affect the comfort —.

Mr. Shanahan.— Is that material?

Mr. Cleveland.—Q. You don't consider yourself sufficiently an xpert on that subject to answer? A. I have answered the uestion, sir.

Q. Did you ever see a sewer constructed with such an outlet s this; an outlet so situated with reference to shallow tide? . Well, not precisely, perhaps; I have seen some very curi- usly constructed outlets in sewers; I would not like to say hat I had ever seen anything exactly like this.

Q. Did you make an examination two years ago; in 1891 did ou find any deposits of sewage matter, of coal tar, anything of hat kind there? A. I don't remember at this time, sir; in the eport which I made at that time there is no mention made f anything of that kind, and I think if there had been I would ave mentioned it.

Cross-examination by Mr. Shanahan:

Q. You never made an examination but that of July 15, 1891, nd this examination of June 14, 1893, did you? A. Not that remember.

Q. The examination made on June 14, 1893, was made at the rst hearing of this investigation? A. It was.

Q. And it was made at the invitation of Mr. William Brown, he treasurer of the board of sewer commissioners of Flat- ush? A. Yes, sir.

Q. And you never made an investigation of the conditions that existed, from the time of the completion of the sewer until that time? A. No, sir.

Q. You have stated all that you did in making the examination that you made, in your testimony; you have stated all that you did in your testimony? A. Yes, sir; I think so.

Q. Will you characterize that as an actual or a careful examination; the examination of June fourteenth? A. I think it was a careful examination.

Q. Did you come prepared to make an examination? A. Yes, sir; will you let me ask you, with reference to your last question, instead of saying "yes, sir;" I will say what do you mean by being prepared to make an examination?

Q. Did you have any conveyance from here to the outlet except Mr. Brown's carriage? A. No other conveyance from here to the end of the wooden sewer.

Q. To the shore line? A. To the shore end of the wooden sewer.

Q. You came there that day, as I understand, in behalf of the petitioners here, to give testimony and not to make an examination? A. I came in response to a subpoena, without knowing what the object of it was.

Q. You came to give testimony and not to go there and make an examination?

Mr. Cleveland.— That is what he says.

A. I came under a subpoena, the object of which I did not know and I had no information or knowledge, or supposition as to what I was to be called upon by the State Board of Health to do; I attended before them under that subpoena.

Q. Have you a copy of that subpoena? A. I have not it here.

Q. That is all.

William Paul Gerhard, called on behalf of the petitioners, being duly sworn, testified as follows:

Direct examination by Mr. Cleveland:

Q. What is your occupation? A. Civil and consulting engineer for sanitary works.

Q. How long have you followed that occupation? A. Since I graduated from an engineering school in 1875; have been in business since 1884, nine years, in New York city.

Q. Part of which business is sanitary engineering? A. Largely.

Q. Do you know the sewer in question? A. I do.

Q. When did you make your first acquaintance with it? A. You mean with the trunk sewer?

Q. Yes; with the trunk sewer? A. I made the first acquaintance with the wooden trunk sewer a week ago to-day, on June fourteenth.

Q. Had you previously examined the mouth of the main sewer or had anything to do with that? A. Only incidentally; I was requested to make an examination of the construction of the sewer.

Q. What examination did you make of the outlet of this sewer on June 14, 1893, or of the trunk sewer or its outlet? A. I went down with Dr. Balch, the secretary of the State Board of Health, and Mr. Bogart, Mr. Croes, Mr. Rowe and Mr. Brown; we went first to a manhole, the cover of which was opened, and we observed the flow of sewage; there was a good current at that point, but a current not sufficient to remove several bricks which were lying in the bottom of the invert of the sewer; we then proceeded to the wooden trunk.

Q. State what its condition was; what you found? A. We found the trunk sewer leaking in numerous places; we could notice distinctly the sound of flowing water; we did not go under the sewer; we could not see the drops of sewage flowing into the water, but we heard distinctly the water pattering down on the banks of the stream.

Q. Did you see deposits attending the leaks? A. We noticed numerous deposits on both sides.

Q. Down to this outlet? A. Yes, sir; down towards the outlet.

Q. That is to say, wherever you found a leak you found a deposit of sewage on both sides of the sewer? A. Yes, sir.

Q. Describe the mouth of this outlet? A. We walked down to the end and looked into the mouth; we did not see any water coming out of it.

Q. Did you make an examination of the banks of the cree
A. Yes, sir; when Dr. Balch and Mr. Bogart and Mr. Croes w
into the boat I staid on the trunk sewer with Mr. Brown a
Mr. Rowe and we took numerous observations of the deposit
both sides of the sewer; the tide was receding and we notic
in the deposit iridescent colors, the colors of the rainbow;
noticed it directly on the sides of the sewer where sewage h
leaked out; we also saw numerous evidences of sewage deposi
such as paper and other matters, such as are liable to come fr
sewage deposits.

Q. Proceed and state what else you did, if anything, on th
occasion? A. My observations were confined to the trunk se
and to the immediate surroundings; I was particularly int
ested in the deposits of sewage because I had been in the locali
previously and there were no such deposits.

Q. There were no such deposits there? A. I spent three da
down there and did not see any such; I spent two days on t
water and I did not see any iridescence or breaking up out
the water as I saw a week ago to-day.

Q. Look at the paper which I now show you and state if th
is the report that you made on your previous examination
June and July, 1891? A. It is.

Mr. Gerhard's report, dated July 10, 1891, offered in eviden
was received and marked "Exhibit E, June 21st, 1893." Th
report is incorporated in Exhibit H.

Q. The statements made in this report, Exhibit E, we
made after your own personal observation? A. Yes, sir.

Q. And you believe them all to be true? A. Certainly, s

Q. Has the result of the investigation made June 14, 18
confirmed you in the opinions expressed in the report of 189
A. They confirm the opinions that I have expressed in m
report of two years ago.

Q. In your judgment, where will the sewage coming out
the outlet of this sewer certainly go? A. It will oscillate
and fro, into Mill creek, and, lower down, into Garretso
creek.

Q. Will it reach the open sea? A. Ultimately it will, if t
creek is saturated with sewage.

Q. When the creek becomes filled up? A. Yes, sir.

Q. Is the inevitable tendency of the sewage to fill up the banks of Mill creek? A. The sewage matters will be left stranded in the marshes and in the other creeks and on the marshes on both sides of the creek.

Q. Is there, in your judgment, an ebullition of the tides of Mill creek? A. Yes, sir.

Q. In the experiments that were made by Mr. Croes, of floats to indicate where the sewage would go, did you join in making those experiments? A. I made some experiments on a day when Mr. Croes was here, and I joined Mr. Croes in observations, but the setting of the floats was done by an assistant of Mr. Croes; we both noted the observations.

Cross-examination by Mr. Shanahan:

Q. Your investigation of June fourteenth of this year was made only of the wooden sewer and its surroundings? A. No, sir; distinctly not; I confess I had a very large interest in the trunk sewer as such, I had an interest in seeing the result of the discharge of sewage into Mill creek; I was interested in the trunk sewer, its shape and condition.

Q. All you saw was the discharge of the sewage at the side of the trunk sewer and the trickling of water underneath the trunk sewer? A. No, sir; when you stand on the top of the trunk sewer you stand at a considerable elevation above the water of the creek and you can see the creek at a considerable distance up and down the stream.

Q. For a short distance up and down? A. It would depend on a man's eyesight, I suppose.

Q. That is the only investigation you have made since the investigation of 1891? A. Yes, sir.

Q. And you were one of the party that were invited by Mr. William Brown? A. I was in the carriage of Mr. William Brown; Mr. Rowe asked me to go down to the sewer; I was not personally invited by Mr. Brown; I was grateful for the invitation.

Q. What is the distance from this place; you went from this building in which we are now holding this examination to Mill

creek; what is the distance from here to Mill creek? A. I h never measured it.

Q. I just want it approximately? A. About a mile, I sho say.

By Mr. Cleveland:

Q. You went on this occasion, on June 14, 1893, for the p pose of examining what became of the sewage when it came of the outlet of the trunk sewer, and your previous examinati was for that purpose, was it not? A. The previous examinati two years ago was made with a view of establishing what wo become of the sewage if discharged into Mill creek.

By Mr. Stranahan:

Q. Have you not testified that there was no discharge ma at the outlet; that the water had percolated out before it to the outlet? A. No water came from the outlet at the time of my examination.

Calvin Hoffmeier, called on behalf of the petitioners, be duly sworn, testified as follows:

Direct examination by Mr. Cleveland:

Q. What is your occupation? A. Oyster business.

Q. Your beds are located where? A. At the mouth of sewer at Mill creek.

Q. You are familiar with the location of the sewer? A. Y sir.

Q. How long have you been an oysterman? A. Twelve fourteen years.

Q. What has been the effect of the outflow of sewage into M creek upon the oyster beds? A. It has covered them all with it.

Q. What is the appearance of this deposit? A. It appe to be coal tar.

Q. Has it destroyed the beds? A. Yes, sir.

Q. From your observations of the outflow, will you tell when the greatest outflow of sewage takes place? A. From tide to low water; the worst is after a heavy rainfall.

Q. Is there much of any outflow except after a heavy rainfall? A. The worst flow is after a rain, and the less rain the less flow there is.

Q. After a heavy rain there is a flow? A. Yes, sir.

Q. Now, will you tell us what you have observed from time to time, stating it in your own way, as to this outflow, giving dates? A. I was there in January, 1893; the tar came out.

Q. Have you preserved a specimen of that tar? A. Yes, sir.

Q. Can you produce it? A. Yes, sir; I got that on the thirty-first day of January. (Produced some stuff in a paper.)

Q. Was that taken by you from the outlet of the sewer? A. Yes; I caught it around the sewer on the thirty-first of January.

Q. Have you observed that same substance coming out of the sewer repeatedly? A. Yes, sir.

Q. And is that the substance which is deposited all over your oyster beds? A. Yes, sir.

Q. And which you found lying along the beds and along the bottom of Mill creek? A. Yes, sir.

Q. Have you any specimens of oysters which you have raked up from time to time? A. I got some yesterday; there is a can I caught yesterday. (Produced some stuff in a can.)

Q. Taken by you from the bottom of the creek? A. Yes, sir.

Q. And you offer this in evidence; this is a can of tar, similar to that previously described by the witness, together with a collection of oyster shells imbedded therein.

Bottles of tar and oyster shells, etc., were offered in evidence, received and marked "Exhibits F. and G., June 21st, 1893."

Q. When was this taken up by you? A. Yesterday afternoon, about 5 o'clock; about 100 yards below the sewer.

Q. Do you know what this substance is? A. According to my belief, it is tar from the gas-house.

Q. Have you observed other substances floating in the sewer and deposited around the creek, such as human excrement and paper and rags and orange peel and such things? A. Yes, sir; I saw them on the eighth of March, the ninth of March and the tenth of March.

Q. And from time to time on other occasions, have you noticed them floating about? A. Yes, sir.

Q. Your oyster beds have been utterly destroyed and covered up by these various deposits? A. Yes, sir.

Q. Is it true that these deposits are made all over the bed of Mill creek, and, if so, how far above and how far below? A. I suppose very near about a mile below and — I have not been above over four or five hundred yards — I found it there; that's as far as I have worked any time.

Q. Do you know how far down it does extend as a deposit on the bottom and sides? A. I don't think you will find very much after you get three-quarters of a mile or a mile below it; I have found a little there, very little.

Q. Have you found foecal matter, human excrement and paper and the ordinary stuff which comes from sewage matter deposited along the banks and in creeks? A. Below, I say, I saw it coming out of the sewer and lying on the bottom; I have caught it.

By Dr. Balch:

Q. You saw it lying on the bottom of the sewer? A. Along the bottom of the sewer and in front of it; along the sewer; along the edge of the tunnel out from the culvert.

Q. How far down did you notice this deposit? A. Paper and stuff; I have seen them below about 200 yards.

Q. Have you been up above? A. I was up about 100 yards from it.

Q. Do you live near the sewer? A. I used to.

By Mr. Cleveland:

Q. In the course of your life as an oysterman you have made constant observations of the flow of sewage and deposit? A. Yes, sir.

Q. Will you tell us whether the inlet between Barren island and Coney island is filled up? A. Yes; it is filled up.

Q. Are you able to get out there to sea? A. With a large boat?

Q. Can you get out there? A. Yes, sir.

Q. Do you have any difficulty?

Mr. Shanahan.—I object to any examination in regard to this unless it is caused by the State.

Mr. Cleveland.—This committee is examining into it.

Dr. Balch.—This is a petition to the Governor of the State of New York. The Governor merely sent the petition to the Board. The Governor's order is that we examine into the matter and report under section 6.

Mr. Shanahan.—I simply thought that that would be irrelevant to this examination.

Dr. Balch.—What do you propose to show by the closing of Dead Horse inlet?

Mr. Cleveland.—I want to show that the refuse will extend as low as that.

By Mr. Rowe.

Q. Referring to the plan, Exhibit C, I will ask you to point out where Dead Horse inlet lies; is it not between Barren island and Coney island? A. Yes, sir.

Q. Is it indicated on this plan by an ink cross?

Objected to by Mr. Shanahan.

Cross-examination by Mr. Shanahan:

Q. How old are you? A. Thirty-two.

Q. That's all.

Daniel Hoffmeier, called on behalf of the petitioners, being duly sworn, testified as follows:

Direct examination by Mr. Cleveland:

Q. What is your name? A. Daniel Hoffmeier.

Q. You are a brother of the preceding witness? A. Yes, sir.

Q. You are also an oysterman? A. Yes, sir.

Q. How long have you been such? A. About twenty-two years.

Q. How old are you? A. Thirty-eight.

Q. You have observed the discharge of sewage out of the Flatbush sewer? A. Yes, sir.

Q. Have you constantly observed it for some months past? A. On the twenty-ninth day of January was the first.

Q. Have you, from time to time, seen it coming out since that time? A. Yes, sir; the heaviest part settles in the channels.

Q. And along the sides of Mill creek? A. Yes, sir.

Q. How far above and below the outlet of the creek have you observed deposits of sewage on the bottom? A. About 500 feet above; I have not been above that.

Q. How far below? A. About three-quarters of a mile; I have not worked below that; I observed some on the water when I worked there last winter; that is around the channel; I don't mean straight across.

Q. Have you been out of Dead Horse inlet? A. Yes, sir.

Q. Have you observed any sewage down there? A. Only from outside.

Q. Have you observed any sewage coming out of the creek? A. No, sir.

Q. Did you ever observe any coming down as far as that? A. No, sir.

Q. From your observations, does the sewage from Mill creek and that out of this sewer ever get down out to Dead Horse inlet? A. No, sir.

Q. Have you observed deposits of sewage in the bottom of said creek, including human excrement, rags, etc.? A. Yes, sir.

Q. And you found all that in the water of Mill creek? A. About 200 feet below the mouth there is paper and orange skins, etc.

Q. You saw all these in the grass? A. Along in the mud; yes, sir.

Q. What effect has this deposit that has settled at the bottom of the creek upon the oyster beds? A. It kills them.

Q. Has it covered them up? A. Yes, sir; they are all dead which I have seen.

Q. Over how large a space is that? A. That I could not say exactly; I suppose about fifteen or sixteen hundred feet below and four or five hundred feet above; I have a bed of oysters up

ere and it got to smelling so I had to give it up; the oysters y there yet.

Q. About Dead Horse inlet, have you observed that Dead orse inlet between Barren island and Coney island is filling p with sand bars? A. It has filled up since last year.

Q. Is this now going on? A. Yes, sir.

Q. You now find the water pretty shallow?

Objected to by Mr. Shanahan.

Q. How shallow? A. About three and one-half feet.

Q. On the sides of the channel it is shallower? A. It is all ry.

Q. How wide is the channel there? A. I should judge about 00 feet; that is the narrowest part, some parts are wider.

Cross-examined by Mr. Shanahan:

Q. You go over in a sail boat, don't you, up Dead Horse nlet, and sloops go up to the mill loaded with cargoes? A. A teamboat runs up there.

By Mr. Cleveland:

Q. At what stage of the tide does a steamboat run? A. I lon't know; it comes in at all times except at low water.

By Mr. Shanahan:

Q. As I understand it, you have not noticed any human excrement above the mouth of the sewer? A. No, sir; I have not been up there; I said 200 feet above; I never noticed any below; about 200 feet above.

Q. None below? A. Yes; I noticed some up about 100 feet; I caught some myself at the mouth of the sewer on the eighth of March.

Q. This coal tar you found three-quarters of a mile below and about 500 feet above, when you worked there? A. Yes, sir.

Q. Of course you worked very carefully? A. Well, I tried to get my oysters up.

Q. You tried to get oysters out of the bottom and this thing ame with it? A. Yes, sir.

By Dr. Balch:

Q. You say that you found evidence of human excrement about 100 feet above the sewer and 200 feet below the sewer? A. Yes, sir.

Q. Where did you see it? A. I seen it lying on the mud.

Q. On which side? A. This side, the one nearest to the mouth of the sewer.

Q. Did you see any on the grass? A. I did not notice.

By Mr. Shanahan:

Q. You have seen coal tar? A. I suppose it was coal tar.

Q. Like Exhibits F. and G.? A. Yes, sir.

Mr. Cleveland.—We have no other witnesses.

Mr. Shanahan.—I renew my motion for an adjournment, and I offer as a further reason that we have been holding a continuous session until long after dinner time, and I do not suppose that you could at any rate take all the evidence that we shall submit, or it may be necessary for us to submit.

Dr. Balch.—Have you any of your witnesses here at all?

Mr. Brown.—Yes; we have some of our witnesses here.

Mr. Shanahan.—We understood that the great complaint was about the coal tar. I have the superintendent of the gas works here to prove that there used to be a connection between the gas-works and the Flatbush sewer, and that that connection ceased, by order of the board of sewer commissioners, in February of this year, and since that time there has not been any discharge of coal tar into the sewer.

Dr. Balch.—That this coal tar got there some other way. As I understand, you show that this coal tar has not been discharged into the sewer since when?

Mr. Shanahan.—Since February of this year.

Dr. Balch.—How many witnesses have you to present on the general question?

Mr. Shanahan.—I wish to consult with Mr. Gaynor after that, with regard to putting experts on the stand to disprove the

contents of these reports; they are entirely new to me. I never saw them before, and as to them, I want to have the right to put experts on to meet the allegations.

Dr. Balch.—I will say frankly now to the respondents in the case, that this matter was adjourned to enable them to get their counsel and witnesses together. It does not seem to me that much effort has been made on their part. We can not keep this matter open all summer. I think we can sit to-morrow and take all the evidence you can present; if you are willing to give it. I do not see why, after a week's time, you are not ready.

Mr. Shanahan.—I would like to have it a week from now.

Dr. Balch.—What is the matter in getting them now?

Mr. Brown.—I consulted with counsel and the counsel advised me to get the other side first and then we would know what we have to meet.

Mr. Cleveland.—The matter is a serious one to us, but I am quite sure that if you decide that these gentlemen should now proceed and finish this hearing, there would be a complaint that they had not been treated fairly. I wish to give them the fullest opportunity that is consistent with your convenience, and I shall not object to a week's adjournment so that they may have ample opportunity. I am desirous of examining any experts who will testify contrary to Mr. Croes' report. If we proceed to-day it will give us a short hearing now and we will have to meet again in order to give the other side an ample opportunity to be heard. I suggest that we adjourn to New York city or any other place.

Mr. Rowe.—I want to put in evidence a copy of the minutes of the meeting of the local health board in September, 1891.

Copy of minutes of the meeting of the board of health of the town of Flatlands, held on September 24, 1891, was offered in evidence, received and marked "Exhibit H, June 21, 1893."

Hearing adjourned to Thursday, June 29, 1893, at 10.30 a. m., at the office of Messrs. Evarts, Choate & Beaman, in New York city.

## "EXHIBIT H, JUNE 21, 1893,"

being copy of minutes of meeting of the board of health of the town of Flatlands, held September 24, 1891, in which is incorporated "Exhibit A, June 21, 1893," "Exhibit C, June 21, 1893,"

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## "EXHIBIT H, JUNE 21, 1893."

Meeting of the board of health of the town of Flatlands, Kings county, N. Y., held at the office of the town clerk on September 24, 1891:

Present.— Supervisor Richard L. Baisley, Esq., Pres.; John S. Schenck, Esq., Hon. John M. Wilson, Hon. William H. Thomas, Elias Hendrickson, Esq., John C. Matthews, Esq., Nicholas W. Brown, Esq., Louis Balch, M. D., secretary State Board of Health; Messrs. Evarts, Choate & Beaman (by Mr. Rowe), representing property owners; C. W. Hunt, Esq., civil engineer; J. J. R. Croes, Esq., civil engineer.

The meeting was called to order by the president.

Dr. Balch stated that complaint had been made to the State Board of Health of a nuisance about to be created by the discharge of the Flatbush sewer into Mill creek, and that the attention of the board of health of Flatlands was called to the matter, and they were asked to prevent the creation of this nuisance, and he understood that the local board, under advice of counsel, had come to the conclusion that they had no power to prevent the creation of the nuisance, but had power to abate the nuisance when one existed.

Dr. Balch here read the report of William Paul Gerhard, Esq., as follows:

## "EXHIBIT E, JUNE 21, 1893."

OFFICE OF WM. PAUL GERHARD, CONSULTING ENGINEER FOR SANITARY WORKS, 36 UNION SQUARE, EAST, NEW YORK CITY.

Messrs. EVARTS, CHOATE & BEAMAN, *Counsellors at Law:*

Gentlemen.—At your request I have, on June 25, and again on July 1 and July 7, visited Flatbush, and have made a careful examination of the place at which the town

of Flatbush, L. I., proposes to locate the outlet of its main outfall sewer. My inspection was not, however, confined to the point of Mill creek, where it is proposed to discharge the sewage of the town of Flatbush, but included the whole course of Mill creek from the former mill-dam to the junction of Mill and Garretson's creeks, and further on the lower part of Garretson's creek, including a portion of John's creek down to the Dead Horse inlet.

It appears from the map of the Flatbush avenue sewer, as filed in the county clerk's office in Brooklyn, that the whole of the sewage proper (excluding storm water) of the town of Flatbush, which is estimated to have a population of 15,000, is to be conveyed through a brick main sewer, 66 inches in diameter, to a wooden trunk or outfall sewer, 4 feet by 5 1-2 feet, with flat bottom. This outfall, according to the map, is located in a straight continuation of the line of Flatbush avenue, and will continuously discharge the unpurified sewage below low-water level into the upper part of Mill creek. This creek is really nothing but a narrow inlet from the sea, a tidal estuary. Opposite the proposed sewer outfall the creek is about 200 feet wide at mean low tide, and has a very narrow and circuitous channel, not more than four feet deep, with very shallow banks, and is almost closed in several places by sand-bars. On either side of the creek are large areas of low land or salt-water meadows, covered with a thick growth of sea grass. These low lands are alternately exposed and covered more or less by water, the sea-grass being entirely submerged only during brief periods of extraordinary high tides.

The upper end of Mill creek, which extends approximately one thousand yards above the proposed sewer outlet to the Mill dam bridge, forms a cul-de-sac or dead end, and has practically no connection with the waters of Jamaica bay.

It is a common practice to get rid of town sewage by discharging it directly, i. e., without any previous purification, into a large body of water, either a running stream or a tidal estuary or into the ocean, and where the volume of water of the stream is sufficient to render sewage innocuous by dilution, or

where there is a rapid and strong current to carry the sewage completely away to such a discharge, that no part of the sewage returns to be deposited upon the flats and to pollute the shores, this method, usually called crude disposal, can not be objected to on sanitary grounds.

The proposed Flatbush avenue outfall sewer contemplates such a crude disposal of the sewage of a town of 15,000 inhabitants into the upper end of Mill creek, and the question submitted to me, is whether or not the method selected, and the location of the outfall sewer is a proper one.

My answer is: Emphatically no. The outfall sewer is not, in my judgment, properly located, and if it should be constructed where and as contemplated, it is safe to predict that before long a formidable nuisance would be created, resulting in great and irreparable damage to the interests of the adjacent property owners, and of the fishing and oyster-bed interests, and this for the following reasons:

Crude and unpurified sewage discharged continuously into the upper end of Mill creek must float backward and forward with every change of the tide, and its impurities would necessarily be deposited about the outfall sewer, and strand along the shores. During the incoming tide, floating particles of solid sewage and suspended flocculent impurities would be driven by the tide, by strong winds and by eddies, against the flats, and deposited in the high grass of the salt water meadows in the vicinity of the outfall, and the same would happen during the ebb tide along the shores, on the numerous sandbars and in the coves of still water of Mill creek.

I have not hastily arrived at this conclusion, but have jointly with Mr. James R. Croes, member American Society Civil Engineers, made a number of careful float experiments, which demonstrated conclusively that sewage discharged at the proposed outfall would not be carried, as it should be, quickly and continuously out to deep water by tidal currents, but would instead oscillate to and fro in Mill creek, as well as farther down in Garretson's and John's creeks, and would remain in those creeks a long time before getting out to sea. In connec-

tion herewith, two facts should be borne in mind: First, that on account of its lesser specific gravity, sewage will float on top of sea water for a period of time greater than when discharged into fresh water; and, second, that salt water has a tendency to delay the oxidation and nitrification of organic matter.

For all these reasons, the outfall sewer, if located as now proposed, would very injuriously affect the adjacent land owners and surrounding property. Roughly estimated, the foecal matter alone of a population of 15,000 inhabitants would amount to about one and two-thirds tons per day, or about 600 tons per annum. These solid organic matters deposited along the shores and in the vicinity of the sewer outfall would necessarily soon decompose, particularly when exposed on the flats at low tide, to the heat of the summer's sun, and thus create offensive gases, dangerous to health. The prevailing winds in summer time are south and southeast, and would have a tendency to pollute the air of the neighborhood for long distances, and endanger the health of the occupants of summer residences along the shore. Property would thereby depreciate in value, hence the outfall sewer would not only work harm, but also great injury to landowners. The boating interests would also suffer, and in summer time pleasure boats, in particular, would avoid waters so highly polluted. Bathing in the creek would be rendered impossible, and the small bathing beach at the foot of the long pier would be defiled. Moreover, there are extensive oyster beds along Mill and Garretson's creeks, and the business of their owners would practically be entirely destroyed. Even the fishing would be injured to a great extent, for although it is generally accepted that fish feed and thrive upon sewage, such is only the case where sewage is discharged in a fresh condition, while it is much more probable that some of the sewage matters would arrive and be discharged at the outlet in a putrid condition, and it is well known that putrid sewage kills fish.

Although I am not called upon to suggest a remedy, I would state that there are several ways in which the difficulty can be

overcome. One way would be to have the sewage of the town of Flatbush purified and rendered innocuous either by application upon land, or by some method of chemical purification, at or near the outskirts of the town of Flatbush. The purified sewage could be discharged without injury into the waters of Mill creek through the proposed outfall sewer.

Another method would be to carry the outfall sewer sufficiently far out into the deep water to a point where strong outward or lateral tidal currents would at all times carry the sewage out to sea.

A third method would be to build a tank sewer or sewage reservoir from which the sewage would be discharged periodically only during the first hours, or, better still, during the middle third of the outgoing tide. If this latter method were adopted it would be advisable to locate the outfall at least as far down as the junction of Mill and Garretson's creeks or else at the junction of Mill and John's creeks. It would not be safe in my judgment to adopt this scheme of storage of sewage and intermittent discharge during the first hours of outgoing tide at the present proposed outfall, as the location is too far near the head of Mill creek, and would still result in a pollution and defilement of the shores.

Respectfully submitted.

WM. PAUL GERHARD,

*Consulting Engineer for Sanitary Work.*

July 10, 1891.

Dr. Balch also read the report of J. J. R. Croes, Esq., as follows:

## "EXHIBIT C, JUNE 21, 1893,"

*Relating to Flatbush Sewer Outlet.*

J. JAMES R. CROES, M. AM. SOC. C. E., M. INST. C. E., CIVIL ENGINEER,
No. 13 WILLIAM ST., NEW YORK CITY.

NEW YORK, *July* 15, 1891.

Messrs. EVARTS, CHOATE & BEAMAN, *No. 52 Wall St., New York city:*

Sirs.—I have the honor to present the result of examinations made at your request to determine the effect upon the adjacent riparian lands of the proposed discharge of the sewage of Flat-

bush through the sewer now in course of construction, into Mill creek, in Flatlands, at the easterly end of Flatbush avenue.

According to the plans on file in the county clerk's office in Brooklyn, the proposed sewer is to be built of brick to the shore line, and thence for a distance of about 1,300 feet is to be carried by a wooden trunk across the marsh land which is submerged at high water, and to discharge into what is know as Mill creek, which is one of the narrow channels through the marshes which adjourn the town of Flatlands on the west side of Jamaica bay from Canarsie to Rockaway inlet. At the terminus of the proposed sewer, the general direction of the channel is at an angle of 45 degrees with the line of the sewer, and runs in an irregular course for about 570 feet to Garretson's creek. The general direction of this creek is at an angle of about 45 degrees with Mill creek for 5,000 feet to Dead Horse inlet, which is between Coney island and Barren island. From the mouth of this inlet it is about 9,000 feet to the open sea outside of Rockaway beach.

Above the proposed sewer outlet, Mill creek extends northerly in the marshes for about 450 feet to an old dam where a tide mill formerly stood. Through the sluiceway in this dam, which is now open, there is water communication with Jamaica bay through 6,000 feet of irregular channels.

At low tide, the salt meadows on each side of Mill creek are exposed, and the water is confined to narrow channels through the marshes. At high water, the marshes are entirely submerged. The extent of the marshes and the channels through them is shown on the accompanying map prepared from the United States Coast Survey charts.

The question to be determined in this case is whether the crude sewerage discharged from the proposed sewer, which is to carry the drainage from a population numbering at the present time, about 12,000 and rapidly growing, will be carried out to sea by the tidal currents, or will be retained within the creeks and diffused through the marsh lands, and by exposure at low tide become offensive and a nuisance to the adjoining upland population.

To aid in determining this question, a series of experiments were made with floats in the channel at various stages of the tide. The floats used were cylindrical rods, thirty-two inches long, loaded at one end and so as to be submerged about twenty-eight inches. On the accompanying map, the course traveled by these floats is indicated, with notes of the times occupied by the floats in traveling between several points.

The result of these float experiments may be thus summarized: When the tide is ebbing, the greatest velocity of the current in Mill creek is about one mile an hour. The tendency of any matter deposited in the channels at the mouth of the proposed sewer is towards the shores of the creek. Out of the seven floats placed in the channels at different stages of the ebb tide on July seventh, not one floated clear of the banks as far as Garretson's creek. Every one was stranded on one side or the other within the first mile below the sewer outlet. Such of them as were picked up and replaced in the channel continued their course towards the ocean. One of these was stranded on the bar off Coney island four hours after it started from the sewer outlet.

Of the four floats placed in the channel at different stages of the ebb tide on June thirtieth, only one reached Garretson's creek. This float was immersed about two hours after high tide. The three other floats were all stranded on the meadow within 2,000 feet of the starting place.

On June thirtieth seven floats were put in the stream at different stages of the flood tide. All of them, when first put in, traveled up stream in Mill creek from 500 to 1,000 feet, and when the tide had risen sufficiently to allow them to pass over the meadows, all of them were stranded within 450 feet of the present end of Flatbush avenue.

Floats placed in the channels of Garretson's and Mill creeks, within one hour after low water, traveled up stream. One of these floats, which was placed in Garretson's creek on July first, was found floating within 1,000 feet of where it had been put in, six days afterwards.

Out of eleven floats placed in the channel of Mill creek at the proposed sewer outlet on June 30, between 9.30 a. m. and 5 p. m., all but one stranded on the meadows within 2,000 feet of the starting place. This series of observations extended from the time of low water to two hours after high water.

The conclusion to be drawn from these experiments is that all solid matters and nearly all liquid matters, discharged from the sewer outlet at the proposed point of outlet, will be retained in Mill creek, and will be distributed over the marshes bordering the creek, and will create a nuisance to the adjacent upland:

First, by the effluvia arising from the matter deposited on the marshes and exposed at low water; and secondly, by gradually filling up the channel of the creek. When the waters of this creek shall have become thoroughly fouled and saturated with sewage matter, a certain proportion of such matter will doubtless be carried out towards the ocean. The direction of the currents at the mouth of the inlet indicates that the floating matter will be carried towards Coney island and create a nuisance there.

I am therefore of the opinion that the location selected for the terminus of the Flatbush avenue sewer is not only injudicious, but it is also positively detrimental to health and contrary to public policy and private rights. This opinion was reached, in the first place, from examination of the locality, and consideration of the well-established principles governing the flow of water in tidal channels, such as exist in the vicinity of the proposed outlet of the sewer, and from the unanimous testimony of persons familiar with the territory, to the effect that floating bodies set adrift in the creeks do not go out to sea, but are carried back and forth by the tides among and over the meadows.

The float experiments I have made corroborate and confirm these principles and statements of fact.

J. J. R. CROES,
*Consulting Engineer.*

J. JAMES R. CROES, CIVIL ENGINEER, 13 WILLIAM STREET,
NEW YORK CITY, *July* 15, 1891.

M. ROWE, OF EVARTS, CHOATE & BEAMAN, Esqrs., *New York city:*

Dear Sir.—I hand you herewith a map or chart showing the float experiments in Flatlands at the outlet of the proposed sewer from Flatbush avenue, together with my report upon the same. A duplicate copy of the report is also transmitted herewith.

Your obedient servant.

J. J. R. CROES.

Dr. Balch.—Now, Mr. Croes has a map here in relation to this matter, showing the points where he put in these floats, and the result of his experiments (referring to map). Here, as I understand it, is the outlet fall of the sewer?

Mr. Croes.—Yes, sir. The direction of Flatbush avenue is shown by this yellow line on the map, that shaded portion there. The point of outfall of the sewer is to be here. It is carried across from the little dock that there is there now, or landing, from the upland. This is the edge of the upland, the yellow, carried across and discharged into the channel of Mill creek, at this point somewhere in here.

Mr. Rowe.—How far is that about?

Mr. Croes.—That is about 1,300 feet from the upland, and there is to be a wooden trunk across there, discharging the sewage out at this point. The point where all the floats were started from was right in the center of the channel, at the point where the sewer is said to be made to discharge. The lines of floats put in on different days are represented by different colored lines here on the map. The floats of June 30 are blue, those of July 7, put in on the ebb tide, are in black, and those on June 30, put in on the ebb tide, are in red.

Now, taking the floats on the flood tide, for instance, those at the time that the tide began to flow, are shown by the course of the blue floats—that is, it was low tide, and the tide was just beginning to raise then—all of these floats came up in this direction. You will see there were eight floats put in there,

xtending from 9.40 o'clock in the morning until 3 o'clock in the afternoon, and they, all of them, ran up and were stranded, some of them — they all landed here. None of them went up farther than this point, and they were all stranded on the meadows around in this vicinity. The course of this stream runs up about 4,500 feet up to the old mill-dam here, which is broken away. There is a passage of water there and the tide ebbs and flows through there. But none of the floats went up in that time, between 9.40 in the morning and 3 o'clock in the afternoon, the time of the deposit, none went up farther than this point here, and right around in that circle, some of them coming in here, all of them going into shore at that point.

Dr. Balch.— As I said a few moments ago, in salt water sewage floats very much longer than it does in fresh water. Then the proof that we have that the sewage would not be carried away by Mill creek at that time of the tide when these experiments were made, is shown by the manner in which the floats continued around in that circular line there, and you will have deposits of sewage where the floats are shown, creating a nuisance.

Mr. Croes.— All of this portion green here is bare at low water. That is covered at high water and bare at low water, and these floats passed over it as the tide went up and stranded all around over this place, as you see. For instance, No. 3, which started from here was put in here at 11 o'clock. At 1 o'clock it had gone up stream to that point; at 1.40 it came in and was just at the end of Flatbush avenue on the upland, stranded there. No. 6, of these, was put in at 2 o'clock, the tide evidently was running pretty strong up then, and at half past 2 it had stranded there against the shore right at the end of Flatbush avenue.

Now, on the ebb tide there were two series of experiments made, one on June 30, which was started at half past 3 in the afternoon when the tide was slack.

Those floats are shown by the red lines. This is just at the beginning of the ebb or high tide; at 4 o'clock, when the tide had begun to run out, just at the beginning, float No. 8 was put

in, and at 4.40 that was stranded on the meadows at this point. Now, that float was submerged twenty-eight inches. It ran against the bank as the tide was falling within 500 feet of the starting point. No. 9 was started at 4.45. At 5 o'clock and 10 minutes, it was stranded at this point, the supposition being, of course, from the direction of these, that if they had not been so deep in the water — the surface flow and ebb flow was toward the shore here. Float No. 10 was put in at quarter past 5 — they were all put in at the same point — that continued and followed the channel down into Garretson's creek, and was still floating there at 6.20. That was three hours after high tide. The tide was only half; it was just about half ebb then, and it had just got into Garretson's creek. No. 11 was put in at half past 5, and that was stranded on the bank of the creek here and was found there. It was getting dark and no observations were taken when it was found lying there, or stranded there the next day.

The experiments of July 7 were taken in the morning at full tide. The tide was high at 9 o'clock, or 9.10. At 9.20 it began to flow, evidently, and at 9.22 the float marked as No. 1 was put in. At 10 o'clock it was stranded on the west bank of the creek. No. 2 was put in at 10 o'clock. That float continued all the way down the channel and was found stranded off Coney island at 2 o'clock in the afternoon. That is the only float of all these that were put in that got out of Garretson's creek, and it showed the tendency of any matter to get out there and to run to Coney island and on the flats in front of Coney island. No. 3 was put in at 11 o'clock. That was two hours after flood. No. 3 did not get down to Garretson's creek, but at 2.40 it was found stranded on the meadows there. No. 4 was put in at 11.50. At 1.20 it had followed down the channel and stranded on the bank. No. 5 was put in at 11.53. That ran ashore and was picked up and put into the middle of the channel at the point indicated here at 12.07, and at half-past 1 it was stranded down just near the mouth of Garretson's creek.

Mr. Hunt.— This one that came up here, stranded there, and was put in the channel again?

Mr. Croes.— The one referred to as No. 2 was stranded on the way out in passing around John's creek; No. 2 was stranded there at 11.20, and then was picked up and replaced in the channel and went out, but it had stranded already. It was picked up and put back into the channel, and that did not get out farther than just off Coney island. Then No. 6, which was put in at 1 o'clock and 3 minutes, was stranded at 2.50 on the adjacent shore. No. 7 was put in at 1.14 at this point, and at 2.50 it stranded on the adjacent shore closer by, the tide at that time not running out as fast, being past the center of the ebb tide.

These floats gave a very fair indication of the course that would be followed by any matter that would be deposited in the channel. They were standing twenty-eight inches deep, and they gave a very true and close approximation to the course of any matter deposited in the center of the stream at that point.

Dr. Balch.— Mr. Croes, I would like to ask you a question. As an expert engineer, in your opinion, raw sewage discharged from the proposed outfall of the Flatbush avenue sewer, could that reach deep sea water?

Mr. Croes.— It could not.

Dr. Balch.— Would it be distributed over the meadows which are uncovered at low tide, by the incoming tide as it fell from the sewer mouth.

Mr. Croes.— From the experiments which I made and from the observation of the currents there, it certainly would be.

Dr. Balch.— The sewage from the town, of about 12,000 people, would be discharged from this outfall, would it not?

Mr. Croes.— Yes, sir.

Dr. Balch.— And about how much on an average is that sewage per day, in gallons? That would be about thirty gallons a person, would it not?

Mr. Croes.— Well, from a population of 12,000, I should think that there would be at the first in the neighborhood of about 60,000 gallons a day, at the first, and increasing as the connections with the sewers increased.

Dr. Balch.— So then when all the connections with the sewers were made you would have, more than likely, 120 gallons a day?

Mr. Croes.— You would probably have 300,000 gallons per day.

Dr. Balch.— There would be 300,000 gallons per day on an average?

Mr. Croes.— Yes, sir.

Dr. Balch.— Of that 300,000 per day on an average, about how much is solid matter?

Mr. Croes.— Well, I can hardly give that in gallons. I think, though, that it would be probably from about a ton and a half to two tons.

Dr. Balch.— Of solid matter?

Mr. Croes.— Of solid matter. A ton and a half to two tons of solid matter it would be, that would be deposited there.

Dr. Balch.— How deep is Mill creek where the discharge takes place?

Mr. Croes.— I think it is about four feet deep at low tide.

Dr. Balch.— And about how wide?

Mr. Croes.— At low water?

Dr. Balch.— Yes, sir.

Mr. Croes.— Well, it is from 80 to 100 feet.

Mr. Baisley.— You are overestimating the depth of that creek, according to the plans that were drawn by the United States survey.

Mr. Croes.— In the center of the creek there, at low tide, I should think it was that.

Mr. Hunt.— We measured it on the days that we were there, but of course we didn't know about the extreme low water.

Dr. Balch.— What I want to know is this: There is but very little water, comparatively, in the bed of this creek at low tide, and they are discharging in here an average of two tons per day of solid matter, which is spread around, more or less, say one-half of it is sediment there, and the other half goes over the meadows and is deposited there. In other words, it will fill up the bed of the creek more or less.

Mr. Croes.— In relation to one of those float experiments that I call your attention to here, I would state: On July first a float was put in at 11.45 in the morning at Garretson's creek,

about one-quarter of a mile below the mouth of Mill creek, and at 6 o'clock on July seventh, that same float was found within a thousand feet of where it had been put in. It had been floating around for a week in the stream, probably being standed at times, and then washed off; but there it was within a thousand feet of where it had been put in.

Dr. Balch.— All I wish to say, from what Mr. Croes has stated here, and reading his report made to the plaintiff's attorney in this case, it is evident that if sewage discharged into Mill creek could not get out into the ocean, it is going to be deposited more or less on the flats and create a nuisance. There is no question in the mind of the president of the State Board of Health, nor in my mind, that that would be the fact, and it would create a menace and danger to public health. The question would come up chiefly on the power of the local board of health, as to what it could do in the case. I notice here in some of the papers forwarded me that the board of health of Flatlands, through its counsel, Morris & Whitehouse, considers it has no power in the matter until a nuisance is created. The letter is as follows:

MORRIS & WHITEHOUSE, 193 MONTAGUE STREET,
BROOKLYN, *August* 20, 1891.

Messrs. EVARTS, CHOATE & BEAMAN:

Gentlemen.— Referring to the petition of some of the citizens of Flatlands addressed to the board of health of that town, we would state on behalf of the board, that they have carefully read and considered the same and although they concur in the opinion therein expressed, that the sewer in question, when completed and put into use, will create a nuisance, they are unable to find wherein they have any power to act in the premises until a nuisance exists. They do not understand that they have any power to act when a nuisance is apprehended merely. If, when completed and put into use, the sewer proves to be a nuisance the board will make use of every power it possesses to suppress it, and to that end will invoke the aid of the courts, if necessary.

Yours, &c.,

MORRIS & WHITEHOUSE.

The State Board of Health considers that the board of he of Flatlands has power, especially when called upon by the St Board of Health, to prevent the nuisance coming on, rat than to wait until the nuisance does come on and then try abate it.

Laying the matter before the Attorney-General, his opini was to that effect, that if the State Board of Health called local board of health together, under the provisions, as I stat before, of subdivision 1, section 3, Laws of 1885, chapter 270 if the Board of Health, or its president and secretary shall satisfied that action by the board of health of the town Flatlands is necessary for the public good, the State Boa would require the board of health of the town of Flatlands take such measures as may be necessary to prevent the cr tion of this nuisance in the furtherance of their duties in p tecting their jurisdiction from the menace and danger to pub health and guard against the introduction of disease or anythi else, as is set forth in subdivision 3 of the same section, wh they are empowered to guard against the introduction of c tagious and infectious disease by the exercise of prop and vigilant medical inspection. If they can gua against the introduction of a disease by keepi people out or keeping goods out, or quaranti things from entering their borders, they certainly c guard against the introduction of disease by preventing town discharging sewage upon their grounds where th is going to be a nuisance. That this is so is shown the case of the complaint of the board of health the city of Syracuse against the city of Syracuse. The board health of the city of Syracuse wrote to the State Board abo it, and they advised them that they had power to go on the selves and act in the matter, and they did so. The complaint the board of health was against the city itself, William B. Burn mayor, John Lee and others, aldermen of the city. The cau of action, or the complaint, sets forth that the common coun of the city had contracted and passed an ordinance to lay certain drain or sewer in a certain place where the board

health decided that if that was done where it was proposed to construct said sewer, it would be a menace and danger to public health.

The common council, upon the order of the board, or, rather, the board made their order upon the common council, but they paid no attention to the matter, so the board of health carried the matter to the Supreme Court, and the opinion of the Supreme Court is as follows:

## SUPREME COURT.

THE BOARD OF HEALTH OF THE CITY OF SYRACUSE *vs.* THE CITY OF SYRACUSE ET AL.

AT CHAMBERS, *November*, 1887.

Order to show cause why a preliminary injunction should not be continued as a temporary injunction during the proceeding of the action.

P. B. McLennan, for plaintiff.

C. L. Stone, for defendant.

VANN, J.—Motion granted and the injunction heretofore issued ordered continued during the pendency of the action, with ten dollars costs to abide event. Held:

"1. That the board of health had jurisdiction to make the general order or regulation in question under chapter 270 of the Laws of 1885."

That was to restrain the common council of the city of Syracuse, within its own jurisdiction, from taking a sewer, the discharge of which sewer would create a nuisance which, in the opinion of the board of health, would be a menace and danger to the public health; and the court held that, under the power of that board, granted to it in chapter 270 of the Laws of 1885, it had the right to make this order, and the common council would have to abide by said order.

"2. That a court of equity has power under said statute and the other acts governing the granting of injunctions, upon the application of the board of health, to restrain any violation of said order or regulation, even if such violation is by the delib-

erate act of the city of Syracuse, through its mayor and co
mon council."

Now comes the third — and this is the main point for t
board of health to consider:

"3. That it is not necessary, in order to authorize a restrai
ing order, that the apprehended nuisance should have beco
fully developed, or that it should be actively engaged in i
work of disseminating disease."

So, therefore, the courts hold, and the State Board of Heal
is advised by its counsel, the Second Deputy Attorney-Gener
that the board of health of Flatlands has complete and enti
power to prevent the discharge of this sewage into its jurisdi
tion or into the town of Flatlands, from the village of Flatbus
unless Flatbush takes some precaution to render the dischar
absolutely innocuous and not dangerous.

In Rochester, I will state to this board, somewhat the sam
ruling was held by the court there, where the city of Rochest
discharged, by the end of an open sewer, into a creek call
Thomas creek, which was running out of the city limits a
entered into a township and through that township went on
Irondequoit bay. The board of health issued an order fo
bidding the city of Rochester so to discharge, and the cou
sustained that action. The result has been that in the city
Rochester intercepting sewers are now being laid.

I think there is no doubt, as far as the question of law
concerned but that the board of health of Flatlands has th
entire power to proceed against the town of Flatbush, or g
an injunction from a court to prevent the town of Flatbush fro
discharging its sewage here until such measures are taken b
the officers as will render such discharge no menace or dang
to the public health.

The State Board of Health, therefore, under the authori
conferred by law, calls upon the board of health of Flatlan
to pass a resolution taking definite steps looking toward t
prevention of this nuisance, and it is considered by the Boa
that those definite steps are necessary for the public good.

Mr. Baisley.—Pardon me, who is the gentleman I am speaking to?

Dr. Balch.—I am Dr. Balch, secretary of the State Board of Health.

Mr. Baisley.—I would like to state that we have taken that step. I do not see that we are represented by counsel, but I see that Evarts, Choate & Beaman's office is represented.

Dr. Balch.—I think your counsel was notified from us the same time we notified you.

Mr. Baisley.—I think the counsel notified the State Board of Health, or Evarts, Choate & Beaman, that when the matter became a nuisance, they would take some steps.

Dr. Balch.—Yes, sir; that is what I just read; but this is to prevent the starting of the nuisance.

Mr. Baisley.—Has the board of health of the town of Flatlands a right to abate the nuisance—

Dr. Balch.—I beg your pardon, you are not abating anything, you are not attempting to abate anything, you do not serve any order on Flatbush to abate any nuisance because there is no nuisance, but what you ought to do is to sue out an injunction to prevent them from going on with a certain matter which is bound to create a nuisance in the town of Flatlands; and you have a right to sue them in the court to restrain them from making the discharge of that raw sewage, because you have before you reports of experiments which show that raw sewage is going to stay within your town, and is not going to sea, and is bound to create a nuisance by deposits on the flats, and it is bound to create a menace and danger to public health, and therefore it becomes your duty to guard against any disease to make Flatbush attend to the matter, or to take such steps yourself, if necessary, to restrain Flatbush from discharging sewage into your town. You, therefore, have the power to sue out, as I say, an injunction restraining Flatbush from discharging raw sewage into the waters of that bay.

Mr. Baisley.—You will understand, as supervisor of this town, I put an injunction upon casting sewage into Flatlands bay. It went through the Supreme Court.

Dr. Balch.— You did do so?

Mr. Baisley.— We did.

Dr. Balch.— I beg your pardon; I did not know that.

Mr. Baisley.— We did and we have got the decision of the court. Some of our neighbors also at the same time had a case they brought up the day following and went into the courts, and as you understand, they got beat, and they carried it to the Court of Appeals. There they received a decision for damages, whatever it may be.

Mr. Rowe.— It is proper to state, in explanation of that, that the action taken at that time both by the individual inhabitants and by the supervisor representing the town, was simply an action to restrain the construction of the sewer in Flatbush avenue. No question of nuisance, so far as the inhabitants are concerned was raised. So far as the supervisor was concerned, he was acting as supervisor and was not acting in any connection with the board of health. The question of possible results from the discharge of the sewage was raised incidentally with the view of showing that the property of the town of Flatlands was, in effect, being taken without compensation by the construction of the sewer. The only question was whether or not an injunction should issue either to the individual inhabitants, or to the supervisor or highway commissioner of the town, of which, of course, the supervisor is one, by reason of the construction of this sewer without their previously having taken proper proceedings to condemn the property or to make any compensation.

Dr. Balch.— It was a question as to the right to lay the sewer through the town of Flatlands, but not a question as to whether the discharge would be a nuisance.

Mr. Baisley.— It was a question between the people here and the town of Flatbush.

Dr. Balch.— As to their taking the ground for running their sewer on?

Mr. Baisley.— Not between the town here and the people of the town of Flatbush, but it was between the property owners.

Mr. Rowe.— I am the representative of the property owners.

Dr. Balch.— Then your suit was a suit by the highway commissioners of the town of Flatlands.?

Mr. Baisley.— The people of the town of Flatlands.

Member of board.— If I understand the thing rightly, the State Board of Health makes a demand upon us?

Dr. Balch.— Yes, sir; but before making any formal demand I would like to hear the thing discussed thoroughly. As I understand the supervisor now to say — first of all, the property owners adjacent to the discharge pipe here and along the highway brought suit against the village of Flatbush to restrain them from building the sewer there, or to make them pay damages for taking their land, for their right of way. That you say the Court of Appeals —

Mr. Blaisley.— I say myself and the commissioner of highways laid an injunction upon this sewer.

Dr. Balch.— For what purpose?

Mr. Blaisley.— To stop it from going through the town of Flatlands.

Dr. Balch.— On what grounds?

Mr. Baisley.—We took the ground that they had no right to go through the town of Flatlands under the land that they held.

Dr. Balch.— You did not take any ground as to the matter of public health in that petition?

Mr. Baisley.— Not at all.

Dr. Balch.— Or whether it would create a nuisance?

Mr. Baisley.— No, sir.

Dr. Balch.— And it was to preserve your right to say whether another town could run things through your land without your permission?

Mr. Baisley.— That was the view we took.

Dr. Balch.— And that you did not get deep in, did you?

Mr. Baisley.— No; the courts restricted that, and said that they had a right to go through the town, but they had —

Dr. Balch.— From the law giving them the right to go to tide water?

Mr. Blaisley.— From the law giving them the right to go to tide water; but they should be restricted to make no nuisance upon the grounds.

Dr. Balch.— The court stated that they should be restricted, that they should create no nuisance?

Mr. Baisley.— That is it; the complaint was that they were going to back up water with this sewer, and the judge stated that they should not do that.

Dr. Balch.— Here we come now, I think, to a little different state of things.

Mr. Rowe.— If I may speak a moment. That action was really an action solely on behalf of the highway commissioners of the town.

Dr. Balch.— I understand it, to prevent a fellow going through without permission from the town. That was very proper, and to prevent anybody walking over the town and taking whatever he liked.

Mr. Blaisley.— That was it. We did not approve of that at all.

Member of board.— There were several members of the board of health over there this morning to make an examination of the sewer.

Dr. Balch.— How far have they got it done?

Member of board.— They have it all done. My opinion is that the sewer will be a failure. I don't think anything will ever go through it, and I will give you my reasons why I think so. We opened a manhole, I think it was in the neighborhood of 500 feet from the shore, up on the highland, and there I think the sewer was half full of water.

Mr. Rowe.— That was backwash.

Member of board.— That was backwash. We went up in front of Mr. Hendrickson's house and we opened a manhole there, and there wasn't a particle of water in there and never had been, and I think it will never work.

Dr. Balch.— They are not discharging into the sewer now?

Member of Board.— No, sir; the sewer is built like that; it is not level. (Deflection.)

Dr. Balch.— If they have got pressure enough above there some day they will shove it out.

Mr. Rowe.— They will fill up the sewer.

Member of board.— Instead of the sewage going out of the mouth of the sewer it will come out of the manholes.

Dr. Balch.— Then it would be worse yet.

Member of board.— Yes; then it would be worse yet.

Dr. Balch.— I think the question comes down to the point for me to say to the board of health of Flatlands — counsel of the State Board has held that this board has jurisdiction and power to try and prevent the discharge of that sewage into this town on the ground that the discharge of the sewage where it is intended, is bound and can not do otherwise than to produce a nuisance of menace and danger to public health.

Mr. Baisley.— Is this the secretary of the State Board of Health ?

Dr. Balch.— Yes, sir; I am the secretary of the State Board of Health, and I am advised by the Deputy Attorney-General, counsel of the Board, that that is the power of the local board of health of Flatlands.

Mr. Baisley.— You were notified in relation to the matter by our counsel, that is, Morris & Whitehouse — I think this is the representative of Evarts, Choate & Beaman (referring to Mr. Rowe) — it was unexpected to me that you called this meeting to-day.

Dr. Balch.— I will state that on September 21 this letter was sent to you (reads letter notifying board of health of Flatlands to hold this meeting). You received that, did you not ?

Mr. Baisley.— I got a telegram yesterday wanting to know where we were going to meet.

Dr. Balch.— Didn't you get this letter?

Mr. Blaisley.— Yes; I got that.

Dr. Balch.— Of course the telegram would not be anything. That is merely asking the question where you were going to meet. If you got that letter you ought to have received it on the 22d of the month.

Mr. Wilson.— If there is any law in the land to stop these people from committing that nuisance we ought to have it.

Member of board.—The way I understand it, we are called together here by the order of the State Board of Health. It is our duty to take care of the interests of our people in Flatlands, and the only thing I see we have got to do is to pass a resolution instructing our counsel to fight. That is all I think we have to do in the matter.

Dr. Balch.—I think the State Board of Health requires you to do that.

Member of board.—I claim if we do not do it we are not doing our duty, and the State Board has power to remove us.

Mr. Baisley.—You will find upon the books now already in this office that we passed such resolutions, to employ counsel whenever it became a nuisance.

Dr. Balch.—Yes; but I want you to do more than that.

Mr. Baisley.—I am going to ask you this: Have we got a right to act until it becomes a nuisance?

Dr. Balch.—Yes, sir.

Mr. Baisley.—We have?

Dr. Balch.—Yes, sir.

Mr. Baisley.—I would like to be informed by you that we have that right.

Member of board.—He has just quoted the law on it.

Dr. Balch.—I have quoted the law and read the opinion of Judge Vann in the matter of Syracuse, and quoted the verbal opinion given to me of the Deputy Attorney-General. Judge Vann gave that decision in that case which I have stated, what the courts in Rochester have held about it, and what the counsel to the board of health held about it, that the board of health of Flatlands be requested to act by the State Board of Health, and they have power under the law to sue out an injunction, or take such measures to prevent a nuisance being made—they have as much power to do that as to abate a nuisance after it is made. Now this is to prevent this nuisance being made. It is all ready to be made now. If they connect Flatbush with that sewer to-day or to-morrow and start discharging anywhere from 100,000 to 300,000 gallons of sewage a day, your nuisance is

nade, you can not help yourself; then you have got a nuisance; hen you have a longer and more expensive fight for the village f Flatlands than you have to-day; but by an injunction now efore they go to work and connect, they can take such measures s will prevent that becoming a nuisance, and the board of ealth can sue out an injunction to make them do so. You do ot dictate to them what they should do, you simply stop them rom creating a nuisance.

Mr. Baisley.— You understand my position?

Dr. Balch.— Yes.

Mr. Baisley.— We laid an injunction upon that sewer.

Dr. Balch.— It was not on this ground.

Mr. Rowe.— There is the resolution asked by the board of health of Syracuse of that case. (Reads resolution.)

Dr. Balch.— That order was disobeyed by the city of Syracuse, so that the board of health sued out an injunction and Judge Vann gave the opinion that the board of health had the right and power and did its duty. He made the injunction permanent, and it was restraining them from discharging their sewage in that manner before it had been discharged or become any nuisance at all. You can cover the same thing here. The same sort of resolution from this board would act in the same manner, and compel them to take some steps, to do something in the matter.

Mr. Baisley.— We took those steps.

Dr. Balch.— You took them in one way, but not through the board of health.

Member of board.— As I understand it, this is another question; this is as to the board of health, not as to the board of town officers or highway commissioners. Now we are to take steps as the local board of health.

Mr. Baisley.— That is to stop the nuisance?

Dr. Balch.— To prevent the creation of a nuisance.

Mr. Baisley.— Well, gentlemen, I took the advice of counsel which you authorized me to do.

Member of board.— But not in this matter at all. You took it to stop them from coming through the town. You have got

to get another injunction to restrain them from making a nuisance.

Mr. Baisley.—I think the secretary has received from Morris & Whitehouse, a letter.—

Dr. Balch.—No, sir; we have received a copy of a letter they wrote. There is their letter, referring to the petition of the citizens of Flatlands (referring to letter), and their opinion is that you can not act until the nuisance is created; but the opinion of the State Board of Health, the opinion of the Deputy Attorney-General, is opposed to the opinion of Messrs. Morris & Whitehouse, it does not agree with them, and holds that you can act as the board of health of Syracuse did, and that, therefore, you can sue out an injunction to restrain the discharge of this sewage in such manner, and until such time as it will not be a menace and danger to public health.

Member of board.—As I understand it, this local board of health is merely acting as the mouthpiece of the State Board of Health. They demand that we have this resolution passed and serve a notice or injunction on Flatbush not to allow them to put the sewage into our bay.

Judge Wilson.—This gentleman thinks that the point ought to be brought out that if the nuisance is once allowed to become a nuisance you can not abate it.

Dr. Balch.—I do not say that at all.

Judge Wilson.—He thinks that point ought to be brought.

Dr. Balch.—Why not prevent it? I will state this, that the State Board of Health is opposed to the discharge of any raw sewage in Jamaica bay from any point. What I mean to say is, that the State Board of Health is opposed to anything of this kind. It prevented Rockaway from doing it; it refused to approve the plans of Rockaway because it was like this. They had a better chance, but they were going to make a sewage pit of a certain hole; they were going to discharge into it and trust to the Lord and the tide to get it out once in a while, and we could not approve of that because it was going to make a nuisance. The 26th ward of Brooklyn, if I am not mistaken, discharges into this bay. They are prevented absolutely

rom discharging any raw sewage into this bay by law; the oard of health had a law passed that they would have to submit plans to us as to the manner in which they would discharge, but no raw sewage could come out there. Let the 26th ward of Brooklyn, Flatbush and all the villages discharge into this bay their raw sewage, and before you know it you will have a deposit of sewage in the bay that you will not get rid of in twenty years. So that, therefore, the only way to protect this water and to preserve it in a proper healthy condition, where we have so much flatland flooded over at high tide, is to prevent anywhere a discharge of raw sewage into the waters of Jamaica bay.

Judge Wilson.— Mr. Chairman, I have a resolution to offer, which I would ask the clerk to read.

The resolution was read as follows:

"EXHIBIT A, JUNE 21, 1893."

Whereas, The town of Flatbush is constructing and has nearly completed the construction in the town of Flatlands of a large trunk sewer to carry the sewage matter of said town of Flatbush to tide water in Flatlands bay in said town of Flatlands, said sewage matter to be discharged at a point in Mill creek in said bay, and

Whereas, The State Board of Health has duly called upon this board to take definite action in reference to the construction of said Flatbush sewer, and the disposition of the sewage matter of the town of Flatbush in Flatlands bay in the town of Flatlands as aforesaid, and

Whereas, This board, after careful investigation and the reception of the reports of experts upon said sewer and its outlet, is satisfied that the construction and use of said Flatbush sewer, as proposed, will be dangerous to public health and the health of the inhabitants of the said town of Flatlands; and

Whereas, This board is satisfied that the construction and use of said Flatbush sewer in the town of Flatlands, as proposed, will undoubtedly cause a nuisance in the town of Flat-

lands and along the shores of Flatlands bay in said town, and a menace and danger to life and health, and dangerous to the public health in said town of Flatlands; and

Whereas, This board finds the facts to be as above recited; therefore it is

Resolved, That the construction and use of said Flatbush sewer in the town of Flatlands will be dangerous to the public health, and it is hereby ordered that the town of Flatbush, its officers, agents, servants, contractors and employes, and all other persons be, and they hereby are forbidden to construct or to aid in the construction of said sewer in the town of Flatlands, or to use said sewer when constructed; and it is further ordered that in case the town of Flatbush fails to comply with the foregoing orders, the counsel of this board are hereby instructed to take proceedings in the Supreme Court at once to enjoin the construction and use of said Flatbush sewer, and the discharge of said sewage from said sewer into Flatlands bay in said town of Flatlands; and it is further ordered that a copy of these resolutions be served upon the town of Flatbush, and that the same be published in one or more of the daily newspapers published in said towns of Flatlands and Flatbush, or in the county of Kings.

Judge Wilson.—I move that the resolution be adopted.

Judge Matthews.—I second the motion.

Carried unanimously.

Judge Wilson.—I move that the clerk serve a copy of the resolution on the authorities in Flatbush.

Judge Matthews.—I second the motion.

Carried unanimously.

On motion, the meeting adjourned.

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ALBANY, *September* 21, 1891.

*To the President Board of Health, Town of Flatlands, Kings County, N. Y.:*

Sir.—Certain matters relating to the proposed discharge of the sewage of Flatbush into Mill creek, having been laid before this Board; and the petition of a number of the residents of the

town of Flatlands to your board relating to the same matter, you are hereby notified and requested, as provided for in subdivision 1, of section 3, of chapter 270, of the Laws of 1885, to convene the board of health of the town of Flatlands, Kings county, at Canarsie, on the 24th day of September, 1891, at 12 o'clock m., to take certain definite proceedings upon matters necessary for the public good and which are within the jurisdiction of the said board.

Very respectfully, your obedient servant,

THOS. NEWBOLD,
*President.*

LEWIS BALCH,
*Secretary and Executive Officer.*

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**Hearing before Committee of the State Board of Health in the Matter of the Flatbush Sewer, held at the Office of Messrs. Evarts, Choate & Beaman, 52 Wall Street, on June 29, 1893.**

Present.—Lewis Balch, M. D., secretary of the State Board of Health; Messrs. Evarts, Choate & Beaman (by Mr. Cleveland), representing property owners of Flatlands; Messrs. Wm. Gaynor and J. B. Shanahan, representing the board of sewer commissioners of Flatbush.

Charles W. Hunt, called on behalf of the petitioners, being duly sworn, testified as follows:

Direct examination by Mr. Cleveland:

Q. What is your occupation? A. Civil engineer.

Q. How long have you been such? A. Since 1876.

Q. Where have you been practicing your profession? A. All over the United States pretty much, this side of the Mississippi river.

Q. Do you know the sewer that extends through Flatbush avenue from Flatbush through Flatlands and empties into Mill creek? A. Well, I know the sewer that was building at the time I was at that part of the country.

Q. When was that, in June, 1891? A. Yes, sir.

Q. How long were you at or about the place designated for the outlet of this sewer in June, 1891? A. I don't recollect exactly, but it was three or four or five days.

Q. Did you ever make some experiments for the purpose of ascertaining what would become of the sewage discharged from the proposed sewer? A. Yes, sir.

Q. Will you please be good enough to state the character of those experiments? A. They were made with floats prepared for the purpose; the floats were put in at all stages of the tide, at a point opposite where it was proposed to discharge the sewage, and the course of those floats and the time at which they stranded in every case was carefully noted upon a map.

Q. Was a map afterwards made by you, showing the course of these floats? A. Yes, sir.

Q. Look upon the map I now show you, and state if it is the map made by you at or shortly after that time? A. Yes, sir; this is the map.

Q. I think this map has already been marked and formed part of Exhibit C; it is a map carefully stating the result your experiments in relation to the floats? A. Yes, sir.

Q. What were these floats? A. They were sticks of wood I think they were old balusters, loaded at one end; they were submerged about two feet, as near as my recollection goes.

Q. Do you recollect that subsequent to these experiments Mr. Croes made a report? A. Yes, sir.

Q. Did you assist him in making that report? A. Yes, sir.

Q. That report has already been put in evidence, and gives the result of certain experiments which were made with floats in the channel, at various stages of the tide; the matter was very fresh in your recollection, was it not? A. Yes, sir.

Q. And are the statements made in that report in relation to the floats and their course, and what you did in connection with these experiments, true? A. Yes, sir.

Q. I find the result of these float experiments summarized in this report as follows: "When the tide is ebbing, the greatest velocity of the current in Mill creek is about one mile an hour; the tendency of any matter deposited in the channels at the mouth of the pro-

posed sewer is towards the shores of the creek. Out of seven floats placed in the channels at different stages of the ebb tide on July seventh, not one floated clear of the banks as far as Garretson's creek. Every one was stranded on one side or the other within the first mile below the sewer outlet. Such of them as were picked up and replaced in the channel continued their course toward the ocean. One of these was stranded on the bar off Coney Island four hours after it started from the sewer outlet." Does that agree with your personal recollection? A. Yes, sir.

Q. Those statements are correct? A. Yes, sir.

Q. And all the statements in relation to these experiments with floats — as I understand they were made by you? A. Yes, sir.

Q. And the map correctly indicates the course of those floats? A. Yes, sir.

Cross-examination by Mr. Gaynor:

Q. What is the speed of the tide in Gowanus canal? A. I do not know.

Q. What is the speed of the tide in Newtown creek? A. That I don't know.

Richard Hoffmeier, called in behalf of the petitioners, being duly sworn, testified as follows:

Direct examination by Mr. Cleveland:

Q. Where do you live? A. In Flatlands.

Q. Whereabouts in Flatlands? A. Down near the shore.

Q. Near Mill creek? A. Yes, sir.

Q. How far from the outlet of this sewer into Mill creek? A. Well, I could not say exactly, probably about fifteen to eighteen hundred feet from the end of the sewer.

Q. What is your business? A. Fishman and oysterman.

Q. Have you observed the discharge from the mouth of the sewer at any time? A. I have, sir.

Q. How often during the last year? A. I saw it pretty much the last year from the twenty-ninth of January to the eighth of March.

Q. What did you see coming out of the mouth of the sewer? A. I saw tar and other filthy matter.

Q. Human excrement? A. I did once; yes, sir.

Q. When? A. The eighth of March.

Q. Did you make any observations in relation to what came out of the sewer on last Monday, the twenty-sixth of June? A. Yes, sir.

Q. Where were you at the time? A. I was at the mouth of the sewer.

Q. The mouth of the trunk sewer? A. Yes, sir.

Q. State what you saw. A. I saw tar and other filthy matter coming out.

Q. Such as a sewer would ordinarily discharge? A. Yes, sir.

Q. And also tar? A. Yes, sir.

Q. Have you ever observed any offensive odor from this discharge from the sewer? A. I have; yes, sir.

Q. How lately? A. Last Sunday night; we had to put our windows down.

Q. What was the odor? A. Well, it was a foul smell, such as would come from a sewer, I should judge.

Cross-examination by Mr. Gaynor:

Q. You say you saw tar coming out of the sewer this last month? A. Yes; this week.

Q. How large were the human excrements that you saw coming out? A. Well, it was pretty well ground up.

Q. I don't want that; give me the size of it? A. Probably pieces coming out the size of a pea, or bigger.

Q. Where were you, in a boat? A. Yes, sir.

Q. What tide was it? A. About an hour before low water; probably a little before.

Q. How swift a current comes out of the sewer? A. At the mouth; that I could not say.

Q. From your knowledge of tides, etc., down there, approximate as near as you can. A. I could not tell how fast it was coming out; pretty fast.

. What amount of water? A. About that I could not

. Well, was it as fast as the tide in the creek? A. I should ge it was, and faster.

Wm. Hoffmeier, called on behalf of the petitioners, being duly orn, testified as follows:

By Mr. Cleveland:

Q. Where do you live? A. Flatlands.

Q. Whereabouts in Flatlands? A. At the shore.

Q. How far from the mouth of this sewer into Mill creek? Probably 2,000 feet or thereabouts.

Q. Have you observed the discharges from that sewer into ll creek? A. Yes, sir.

Q. How often? A. I could not say exactly how often; sometimes once a week and sometimes twice.

Q. How lately have you seen anything coming out of the ewer? A. This morning.

Q. What did you see coming out this morning? A. Tar.

Cross-examination by Mr. Gaynor:

Q. How did you know it was tar? A. I examined it; took it p in my hands and examined it.

Q. Have you got any of it with you? A. No, sir.

Q. How far from the mouth of the sewer? A. About six feet.

Q. Was it on the surface of the water? A. Yes, sir.

Q. This morning? A. Yes, sir.

Q. Do you know where the tar goes into the sewer? A. No, sir.

Q. What was the state of the tide? A. About three hours rise.

Q. At what time this morning? A. About twenty minutes fter six.

Q. How did you know it was tar? A. I examined it; it looked ke any coal tar I ever saw before.

By Mr. Cleveland:

Q. Before this morning have you ever seen stuff that looked ke coal tar come out of the sewer? A. Yes, sir.

Q. And other matter? A. Only coal tar.

Lawrence Hoffmeier, called on behalf of the petitioners, being duly sworn, testified as follows:

Direct examination by Mr. Cleveland:

Q. Where do you live? A. Flatlands.

Q. How far from the mouth of this sewer? A. A mile and a quarter.

Q. What is your occupation? A. Fish and oysters.

Q. Have you ever observed discharges from the mouth of the sewer into Mill creek? A. Yes, sir.

Q. When? A. Tuesday was the last.

Q. Ever before that? A. Yes, sir.

Q. Have you ever observed it close enough to ascertain the character of these discharges? A. Yes, sir; I have taken it up in my hands and examined it, tar and excrements.

Q. Have you ever seen these excrements in any other portion of the neighborhood of the sewer? A. Right at the mouth.

Q. Have you ever seen them on the shore? A. Some; yes, sir.

Q. On the shores of the creek? A. Yes, sir.

Q. How far from the mouth of the sewer? A. I should say a thousand feet.

Q. Down or up? A. Towards the shore and on Mr. Coleman's shore.

Cross-examination by Mr. Gaynor:

Q. This human matter that you speak of, how often have you seen that? A. Once; Tuesday; that is all I have examined it.

Q. Do you know how far it is from the mouth of the sewer to the Flatbush line? A. Some three and a half miles, I think.

Q. Do you want the professional men here to believe that human excrement travels that distance through water and comes out in a solid mass at the sewer? A. On the edges; I could not swear it came from the sewer; I just saw it on the shore; the tar I saw on the shore.

William Armitage, called on behalf of the respondents, being duly sworn, testified as follows:

Direct examination by Mr. Gaynor:

Q. Are you the superintendent of the gas-light company in Flatbush? A. Yes, sir.

Q. Did you have there a refuse from the manufacture of gas, for a certain time, turned into the sewer? A. We had a connection with the sewer, but we did not turn the refuse into the sewer.

Q. How did it get in? A. It was not intentional; we had a connection from one of our wells to the sewer, and whatever passed in there was probably refuse from the gas-works.

Q. Has that connection been discontinued? A. It was discontinued on the fourteenth day of February.

Q. You had a permit previous to that? A. Yes; we obtained that on the fourteenth day of October.

Q. That permit was revoked? A. Yes, sir.

Q. Have you any such connection with the sewer now? A. No, sir.

Q. Have you had since the day you mention? A. On the fourteenth day of February, in the presence of witnesses, we broke the connection with the wells where the refuse from the gas collected, and on the fifteenth day of June we broke the main connection with the sewer; we have no connection with the sewer at all for any surface water.

By Dr. Balch:

Q. That is on the fifteenth day of last June? A. Yes, sir; this month; since the fourteenth day of February we simply used the sewer for the water from the roofs.

By Mr. Gaynor:

Q. Do you mean you don't use it for anything? A. No, sir; we don't use it for anything.

Q. You say this was all done in the presence of witnesses? A. Yes, sir.

Q. Who are they? A. I have two of them here, the foreman of the gas-works and the foreman of the laborers; Frederick Just (?) the foreman of the gas-works and Peter Finnegan, the foreman of the laborers.

Q. Are they present in the room? A. Yes, sir.

Q. Is the sewer that you were connected with the one through Clarkson street? A. Yes, sir.

Q. That must be half a mile from the main sewer? A. Fully that.

The resolution of the board of street and sewer commissioners of the town of Flatbush, revoking the permit, was offered in evidence; received and marked "Exhibit No. 1, June 29, 1893." It is as follows:

"FLATBUSH, *June* 28, 1893.

"I hereby certify that at a regular meeting of the board of street and sewer commissioners of the town of Flatbush, held June 15, 1893, the following resolution was adopted:

"Resolved, That the permit granted the Flatbush Gas Company to connect with house drainage sewer October 14, 1892, be hereby revoked.

"JOHN I. BOLLINGER,

"*Clerk Street and Sewer Commissioners, Town of Flatbush, L.I.*"

Cross-examination by Mr. Cleveland:

Q. You have broken this connection that, prior to the 14th of February, 1893, existed between the wells and the Flatbush sewer? A. Yes, sir.

Q. What has been the custom of the gas company before the sewer was built? A. We had a series of wells or cesspools and we used to run the refuse from the gas into the wells and it would separate, the heavy matter and tar falling to the bottom, and the water flowing off into these wells; from the last one we made a connection with the sewer; it was not our intention —

Q. I don't ask you your intention? A. We connected the last well so that the clean water, being separated from the tar, might pass off into the sewer.

Q. That was prior to February 14, 1893? A. Yes, sir.

Q. How did the coal tar get into the sewer prior to this? A. It passed off with the water; the separation was not perfect.

Q. Did you see the specimens of coal tar that were said to be taken from the mouth of this sewer, that were produced at the last hearing? A. Yes, sir.

Q. Have you any doubt that that coal tar came from your gas-works? A. No, sir; I don't know that I have.

Q. On the fourteenth of February what did you do? A. We severed the connection of this last well with the sewer.

Q. And after the fourteenth of February how did the coal tar get into the sewer? A. It did not come from the gas-works.

Q. Do you say that of your own knowledge? A. Yes, sir; I saw the connection broken.

Q. Do you know that it has not been re-established? A. It has not.

Q. Do you know it? A. I know it, positively.

Q. Do you mean to say that since the 14th of February, 1893, no coal tar has gone into the sewer from your gas-works? A. Not a drop.

Q. Have you a plan or map showing the relation of these cesspools, or what you call wells to the sewer? A. I have a plan of the works, showing the general location of these cesspools.

Q. Where is it, here? A. No, sir.

Q. How far are these cesspools from the sewer? A. I should say 200 feet.

Q. How do you account for the sewer now discharging coal tar? A. I don't know, sir.

Q. Are there any other gas-works in the neighborhood of your gas-works? A. Not that I know of.

Q. Are there any other gas-works that have any other connection with this sewer than your gas-works? A. I don't know.

Q. Have you ever been to the mouth of this sewer? A. Yes, sir.

Q. Since February last have you not taken any pains to know what that sewer was discharging now? A. I have not been there since February.

Q. You have no reason to doubt that the testimony given here by the Hoffmeier brothers, that coal tar has been coming out of that sewer since February, 1893, is true?

Objected to by Mr. Gaynor. Question allowed.

A. I have not any doubt of the truth of the statements of the gentlemen; I have no personal knowledge.

Q. This permit was only revoked day before yesterday? A. It was revoked on the fifteenth day of June; that is, we received word to discontinue the use of the sewer.

Q. Who brought you that word? A. Mr. Brown.

Q. That was on the fifteenth of June? A. Yes, sir.

Q. What connections prior to the fifteenth of June, in May and June, were had with any portion of your works and the sewer? A. We had a connection for roof water, water from the roofs and the surface of the yards.

Q. Where does the water from the roof and the surface water come into the sewer? A. It does not come into the sewer now.

Q. Where did it prior to the fifteenth? A. The connections were made in the yard of the gas company.

Q. Describe those connections? A. We had an eight-inch sewer pipe laid through the premises and there was a connection made from leaders of the building.

Q. What do you do now with this refuse from the cesspools? A. The tar we have a market for, that we save and we have built two cesspools, two new ones and the water now is being carried away by the cesspools; the water flows into the cesspools and leaches out into the ground.

Q. What connection have you with the Clarkson street sewer? A. None at all.

Q. Then, as I understand you, you have no connection at present with any sewer? A. None at all.

Q. And since the fifteenth of June have had none? A. No, sir.

Q. And as you say, since the fourteenth of February the gas works have had no connection with this sewer? A. None at all.

By Mr. Gaynor:

Q. There is no other gas-works in Flatbush? A. No, sir.

Q. Is there any manufactory of any kind that produces coal tar? A. No, sir; not that I know of.

Q. On this question of doubt on the testimony of the Hoffmeiers, you say you have no personal knowledge about it? A. None at all, sir.

Q. On the question of coming from your place, have you any ubt whatever? A. Nothing is coming from our place and s not come since the fourteenth of Februaary.

By Dr. Balch:

Q. Where does the coal sludge in the cesspool go to now? . We have that sediment and we have a market for that; we ke it out in barrels.

By Mr. Gaynor:

Q. The soil in Flatbush, very deep down, is very porous, is it ıt? A. Yes, sir.

Q. If you go down a little ways it has a rock gravel bed? A. es, sir; so it percolates.

By Dr. Balch:

Q. Gravel? A. Yes, sir; we have a cesspool in Flatbush that understand has been built perhaps fifteen years; I measured in 1885, in June, 1885; the depth of it was forty-five feet and e diameter at the mouth was about four feet, and that cess-ol is still carrying away the water; I simply make that mark to show how porous the soil is.

By Mr. Gaynor:

Q. I presume the commissioner is acquainted with the porous aracter of that soil?

By Mr. Cleveland:

Q. How far are your gas-works from the mouth of the sewer a Mill creek? A. They must be five miles or more.

Q. You say you have a market for this coal tar? A. Yes, sir.

Q. Have you ever marketed any of it? A. Yes, sir.

Q. Where? A. In the city of Brooklyn.

Q. How lately? A. Within perhaps three months.

Q. Give me the names to whom you have sold any coal tar nce the 14th of February, 1893? A. George W. Evans is the ntractor that takes this tar.

Q. How lately has he taken any away from your gas-works? I don't think he has taken any since three months or more.

Q. Is it three months? A. It is fully three months.

Q. Has he taken any since the 14th of February, 1893? A. I can not state positively.

By Mr. Gaynor:

Q. This contractor takes it at intervals? A. At intervals; it accumulates gradually in the wells.

Mr. Gaynor.—And this that went to the sewer prior to the fourteenth of February was the overflow from these tanks and possibly would take some color of the tar.

Mr. Cleveland.—This tar dropped from angel's wings, or something of that sort.

Dr. Balch.—I would say to the gentlemen don't go into religious matters; we are not sitting as an ecclesiastical court at all; we are none of us angels.

Wm. Brown, called on behalf of the respondents, being duly sworn, testified as follows:

Direct examination by Mr. Gaynor:

Q. Mr. Brown, are you a member of the sewer board? A. Yes, sir.

Q. As such, you have been active and attentive in the building and care of this sewer? A. Yes, sir; more so than any of the other commissioners.

Q. Is there any manufactory, or business, or place in the town, connected with the trunk sewer or any of the sewers, that throws coal tar or tar of any kind in the sewer? A. No, sir.

Q. Is this the only gas company in the town? A. The only gas company.

Q. In fact, I believe the town is without manufactories, is it not? A. Yes, sir.

Q. Were these sewers siphoned out recently? A. Yes, sir; within the last two weeks they have been working on the siphons on Flatbush avenue; on account of the great drought we thought it safer to clean it out rather than to allow the floods to clean them out.

. This system of siphons, are they for that purpose? A. They for one sewer crossing another sewer; the wells collect the id matter and when the rain water comes it fills up the wells l carries it down in the sewer; I found that accumulation of id matter, tar, etc., in the siphons had formed a hard crust l I had it broken up, and in breaking it up more or less aped and went down into the sewer; that would account for discharge in the outlet.

. This recent discharge would come from the siphon? A. s, sir.

Cross-examination by Mr. Cleveland:

. What is your connection with the gas-works? A. President the gas company.

. How long have you been president of the gas company? A little over a year.

. On the 14th of June, 1893, you visited the outlet of s sewer in company with Dr. Balch and Mr. Bogart, did you ? A. Yes, sir.

By Dr. Balch:

Q. You are connected with the sewer commission? A. Yes, .

Q. You are treasurer of that body? A. Yes, sir.

Q. How many people are there in the town of Flatbush? A. bout 12,000.

Q. Is all the sewer system connected with this main sewer? Yes, sir.

Q. And that is the only outlet for the whole system? A. We ve a storm sewer; this is the outlet.

By Mr. Gaynor:

Q. Of this 12,000 there is only a small fraction connected with e sewer? A. Yes, sir.

. Flatbush is a large farming territory, taking in many lements, is it not? A. Yes, sir.

. This connection with the sewers is in the farming district? Yes, sir.

Q. How many connections are there with the sewer? A. I don't suppose more than 150.

By Dr. Balch:

Q. How many inhabitants does that 150 connections represent? A. How many inhabitants; I think the rule is five to one for a house.

Q. I was not asking that. A. I am not an expert; all I know is theoretically.

Q. It is designed to take all the sewerage of Flatbush in this sewer, is it not? A. We intend to build other outlets in every street, we have a right to run down to tide water.

By Mr. Gaynor:

Q. You have some knowledge of how several sewers in Brooklyn, going through densely populated districts, empty into the Gowanus canal and Newtown creek, where the tide flow is very sluggish? A. Yes, sir.

Q. How many sewers empty in Gowanus canal?

Objected to by Mr. Cleveland; objection sustained.

By Mr. Cleveland:

Q. This sewer is intended to carry the main portion of the sewerage of the town of Flatbush, is it not? A. Well, I can not say it is.

Q. But it is the only one now built? A. The only one built with 150 connections, of course, but some time we may have 100 outlets; there is no limit to those.

Q. And the connections with this sewer are gradually increasing, are they not? A. Very gradually.

Q. Over to the west is the Parkson (?) district? A. That is not connected with the sewer.

Q. Can you give us some idea of the radius of Flatbush? A. About 4,000 acres.

By Mr. Cleveland:

Q. How do you siphon out the sewer? A. We did not siphon it out; we cleaned it out with hautboys; the solid matter had accumulated in the wells; you understand the principle of

siphon? It goes down this way and up again (illustrating in pantomime) and the solid matter settles in the wells on the side; we cleaned out the solid matter in the wells.

Q. In the wells in the sewer? A. In the siphon; there are two wells in the siphon, one on each side of the siphon.

Q. That is what you mean by siphoning out the sewer; you cleaned the siphon? A. We cleaned the siphons.

By Mr. Gaynor:

Q. Where lateral ones cross or come into the main sewer there is a well, a bucket, lower down than the bottom of the main sewer? A. Yes, sir.

Q. And this solid matter drops into the bucket? A. Yes, sir.

By Dr. Balch:

Q. What did you do with it? A. We sold the stuff to a farmer for raising potatoes next year.

Vanbrunt Bergen, called on behalf of the respondents, being duly sworn, testified as follows:

Direct examination by Mr. Gaynor:

Q. Your profession is what? A. Civil engineer.

Q. Were you the engineer in charge of the construction of this sewer system? A. No, sir; I had nothing to do with the construction.

Q. With the planning of it? A. Yes, sir.

Q. The designing and planning, etc., you did that? A. Yes, sir.

Q. How long have you been in the profession of civil engineering? A. Since 1863.

Q. What has been your experience in the matter of planning sewers? A. Since 1864 I have been employed in the important city works of Brooklyn, and have had more or less work in planning sewers during the last sixty years.

Q. Are you familiar with the statistical information relative to sewers and the matter that goes through them? A. Yes; I have read up more or less on that subject and also have had some experience.

Q. You have heard the testimony of the gentlemen, th Hoffmeiers; the town of Flatbush is supplied with water water company; will you state the proportion of solid liquid matters that would go through this sewer? A. Of c it depends upon the amount of water used by each pe I suppose the sewage matter would be somewhere about 10 lons per head, and that probably one part in 800 would be matter.

Q. In what condition would that solid matter be when it to the mouth of the sewer? A. After passing through the let sewer, a distance of some three miles, it would be in a fine condition; it would be ground up, as a rule, except matter as paper or such.

Q. I am speaking of the foecal matter only; as a matt fact, that would be in a state of solution? A. Yes, sir.

Q. To what extent? A. I should say that the water be colored and that is all.

Q. You could hardly find deposits; this thing that they being the size of a walnut or pea; you could not find any like that? A. I should say not; in my experience I have seen anything like that.

Q. What is the distance from the mouth of this sewer to is called the village of Flatbush, at the corner of Clarkson s A. I could not say positively; but I should say about fo five miles.

Q. That is about the central point? A. Yes, sir.

Q. As a matter of fact, this sewage comes out of the of the sewer in a liquid state? A. Yes, sir.

Q. Barring coal tar or rags or paper? A. Yes, sir.

Q. How far does the tide, at high tide, flow up in the s A. About 3,000 feet.

Q. You so planned it, did you not? A. Yes, sir; it is a about one in a thousand and it is about three feet to high

Cross-examination by Mr. Cleveland:

Q. Did you ever examine the mouth of this sewer? A. it has been operated; no, sir.

What is the grade of that sewer from the corner of Clark-reet, the point you have mentioned in your direct exami-, the corner of Clarkson street to the mouth of the sewer ill creek? A. I could not say positively, without looking plans; it is about one in a thousand.

Where did you have any experience in noticing the char- of the discharge of sewers? A. In Brooklyn, I have seen scharge of many sewers, and also I have been past the sh sewers, that is, from the county buildings.

Does not the character of the discharge from the mouth sewer depend a good deal on the grade of the sewer? good deal upon the velocity of the water flowing through it.

Do you know of any sewer in Brooklyn that has a grade of one thousand feet? A. Well, about that; I won't say ely; take the Third avenue, the outflow sewer; many have that grade, some even flatter.

For how long? A. The Third avenue sewer, I should think distance of perhaps three miles.

Will you state the place? A. It discharges at the foot of ninth street and First avenue, follows First avenue up to third street, from there to Third avenue and Thirty-first e; I think for about fifteen miles of that distance it has a lat grade.

Did you ever notice the discharge from the sewer? A. I seen it; not lately, several years ago.

How many years ago? A. I suppose it must be three or ears ago.

When was it built? A. I think that portion has been built six or seven years.

Gaynor.— What sewer is that?

Cleveland.— The Third avenue sewer.

Then when you say what would come out from the mouth e Flatbush sewer, you speak not from any experi- f that sewer? A. No, sir; from judgment, from general ation.

That experience has been limited to one other sewer? ave seen other sewers discharge —

Q. I am speaikng of sewers of this grade? A. Only one othe sir.

Q. That discharge you noticed about four years ago? A. think so.

Q. And more than once? A. Yes, sir; I could not say how many times, perhaps three times.

Q. What pains did you take to ascertain? A. Simply from being somewhat interested in those subjects.

Q. Do you think it was a careful examination? A. Not a thorough examination, that would require the collection.

Q. Somewhat superficial?

By Mr. Gaynor.

Q. You are familiar with the statistics on this matter, of London and other cities? A. More or less.

Q. About the proportion of solids to liquids that go through sewers? A. Yes, sir.

Q. And that the relation to the inhabitants are much less—

Objected to by Mr. Cleveland.

Q. I mean the relation of solid and liquid matter; it is a matter not only of actual experience, but of reading in your profession? A. Yes, sir.

Q. You say that there are sewers in Brooklyn with as light a grade as this and some of them flatter? A. I think some of them flatter.

Q. This coming of the tide 3,000 feet up into the sewer, is no that calculated to wash it out? A. Yes, sir; with the flood tid there is a backing up to a certain extent; and with the eb tide it increases the velocity.

By Mr. Cleveland:

Q. When you say one of the sewers in Brooklyn, you hav specified only one, and you only know one? A. I can not sa exactly; my memory is that the Tenth avenue sewer has abo the same grade.

By Mr. Gaynor:

Q. There is no complaint made of the grade of this sewer? I have not heard of it; it is all right as far as I am awa

ewers are built much flatter in many cases; one in two thou-
and is usual.

By Dr. Balch:

Q. The discharge from the sewer, as I understood Mr. Gay-
nor to ask, was in a state of solution ? A. Both of solution and
suspension.

Mr. Gaynor.—That is all that I have. I think the commis-
sion ought to hear the health board. I do not find in this
record (referring to stenographer's report of former hearings)
any testimony that there is danger to the public health. Never-
heless, I desire to help the commission as far as possible, and
f there is to be another session, I will have Dr. Petrosky (?)
here.

Dr. Balch.—It seems to me we have had adjournments enough
for all the witnesses that can be brought before the commission.
So far as the question as to whether it is dangerous to the public
health is concerned, that is to be decided by the State Board of
Health; we are to take all the proof you choose to present.

Mr. Gaynor.—The Board has been very courteous to my
side in adjournments. I am not disposed to ask for any further
adjournments.

Mr. Cleveland.—May we consider the matter closed, Mr.
Gaynor ?

Mr. Gaynor.—I suppose so. I would state to the State Board
of Health that this matter was the subject of a litigation in
the Supreme Court, where I proved that the velocity of the tide
had a capacity to take away the matter that came through the
sewer, to a distance; this was proved by several witnesses, and
I would like to have that testimony in evidence.

Mr. Cleveland.—I should object to any testimony coming in
where I had not the chance of cross-examining the witnesses.

Mr. Gaynor.—It was a suit brought by the citizens (?) of Flat-
lands against the town of Flatbush and was decided in favor
of Flatbush.

Dr. Balch.—It was decided in favor of the town of Flatbush?

Mr. Gaynor.— Yes, sir.

Dr. Balch.— I do not see that it has any bearing on investigation of the State Board. The Board has to inv gate — it is the object of this commission to investigate matter laid before it under the Governor's order and the report to him its conclusions. Now, whether an injunctio some local grounds has been granted to one or the other i the Governor to take up afterwards, or for the Board to up under the Governor's order, if he makes it. The B would have to make its report.

Mr. Gaynor.— This was an investigation of the facts.

Dr. Balch.— The other day when we were talking to Brown he spoke about the facts of the case, and I unders that any engineering testimony or any testimony which been taken on that side, which had a bearing upon that q tion, would be laid before the commission at this hearing.

Mr. Gaynor.— It is all a matter of record. As we have several witnesses for cross-examination on both sides—

Dr. Balch.— Is it printed?

Mr. Gaynor.— It is typewritten. It is a matter that conc the commission more than me. I thought it might be for enlightenment of the commission.

Dr. Balch.— I don't know whether it would enlighten commission. I suppose the commission might make their re by making request for such testimony as it sees fit, wit having to swear the witnesses at all; the swearing of the nesses is for the advantage of both sides. This testimony be available, if necessary, without putting it in evidence.

Mr. Gaynor.— We are ready to do so; any time the B desires to call for it, I will send it to you.

Mr. Cleveland.— That is the suit referred to in the lette Morris & Whitehouse.

Mr. Gaynor.— The law under which this sewer was buil chapter 161 of the Laws of 1889. I merely quote that to sh this sewer was built under a statute that gave us a right build it.

Dr. Balch.—As I understand it—of course I am glad to know what the law was; but what we have to pass upon is not the validity of the act which led to the building of this sewer; it is whether the facts existing in the method of its discharge or the place of its discharge may be a menace to public health. The validity of the act or the power of the trustees to construct is a question we have nothing to do with. If the counsel wish to submit any other authority in the matter or any other witnesses, I would be glad to hear them.

Mr. Gaynor.—We have none to submit.

Dr. Balch.—Then I suppose we might adjourn the hearing indefinitely for the report of the Board. The commission will report to the Board of Health, and just as soon as possible the result will be communicated to you as to what report is made to the Governor.

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## Report of the Committee in the Matter of the Flatbush Sewer.

*To the State Board of Health:*

Sirs.—The committee appointed by you at the meeting held June seventh, to examine into the matter of the discharge of the main sewer of Flatbush into Mill creek in the town of Flatlands referred to this Board by the Governor with orders to examine and report to him, would respectfully submit the following:

The secretary of the Board, having corresponded with the petitioners, forwarded subpoenas in blank for their witnesses and also had the sewer commissioners of Flatbush served with subpoenas. The first meeting of the committee was held at Flatlands, the 14th of June, but nothing was done in the way of taking testimony, the respondents asking an adjournment which was taken. The committee then inspected the sewer complained of in company with Mr. Wm. Brown, treasurer of the sewer commissioners, Mr. Bogart, C. E., consulting engineer of the Board, and Mr. Croes and Mr. Gerhard, civil engineers employed by the petitioners. The tide was falling

and a careful examination was made of the sewer and the wooden trunk leading from it to Mill creek. Mr. Bogart was requested to make a report of his examination at this time, and also of a previous inspection, and attention is asked to that report, herewith attached.

On June 21, the committee again met and took the testimony of seven witnesses for the petitioners, when an adjournment was taken until the twenty-ninth instant, and on that date the committee met at the office of Messrs. Evarts, Choate & Beaman, counsel for the petitioners, No. 52 Wall street, New York city, N. Y. At this hearing the petitioners presented four witnesses and rested. The respondents called three witnesses and also rested. Counsel decided they did not think it necessary to sum up, but would leave the case in the hands of the Board.

From the examination made by your committee and from the testimony and papers submitted, we are of the opinion that a nuisance which will develop into one of magnitude, and which will be of menace to health, is being created and that measures should be taken for its relief. The committee does not enter upon the subject of the sewer crossing the town of Flatlands as that question does not come into the jurisdiction of the Board. But the discharge of raw sewage into Mill creek does come within the scope of the Board to pass upon. By referring to the testimony of Messrs. Croes, Gerhard and Hunt, it will be seen experiments made of the tidal flow in Mill creek demonstrate the fact that sewage discharged therein will not be able to reach the sea, but will be stranded on the flats by the flood tide. This to a small degree is now taking place, and it is but a question of time when the foul odors arising from greater deposits will become more offensive.

Your committee would suggest that the Board recommend to the Governor that the existing state of affairs is a nuisance of menace to health, and that it should be abated by the building of proper disposal works, the plans for which receive the approval of this Board before construction, and that the sewer commissioners be restrained from constructing other outlets

into Mill creek or other waters where the same conditions of tidal action prevail, unless proper disposal works are arranged for.

Very respectfully, your obedient servants.

CYRUS EDSON,
LEWIS BALCH,
*Committee.*

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*July* 13, 1893.

Dr. LEWIS BALCH, *Secretary State Board of Health:*

Sir.—In accordance with instructions, I beg to report the result of examinations at and near the outlet of the sewer which runs from Flatbush, in Flatbush avenue, through Flatlands to Mill creek, an arm of the sea.

My first examination was made on June 13, 1893, and continued about two hours of a rising tide, beginning shortly after low water. The brick sewer terminates at the flats near high-water mark, the high water rising, as near a sI could judge, about three feet above the bottom of the sewer at that point. The continuation of the sewer is a wooden trunk of the outside dimensions of about five feet eight inches horizontal and four feet four inches vertical. This is formed of heavy plank, laid transversely at top and bottom and longitudinally along the sides. It is held in place by frequent wooden external bracings and is founded upon piles driven into the low lands and the estuaries of the creek. It seems to be a substantial construction and stable, but it was not, at the time of my examination, at all tight. There were openings, both in the sides and at the bottom. The length of this wooden trunk is over 1,000 feet. This I noted at a number of points and particularly as follows; at about 150 feet from the shore end of the wooden trunk, water was running out of it; at a point about 50 feet further, it was dripping from it; at a point about 20 feet further, quite a stream was running from the trunk to the water, which, at the time of my examination, was several inches below the bottom of the trunk, the tide rising but not yet having, at that point, reached the level of the

bottom of the trunk. Near the points where the water was escaping from the trunk there was plainly visible a cloudiness and putrid appearance of the water in the immediate vicinity of this effluent which, in my opinion, was caused by the escape of the sewage into this water. At about 150 feet from the outer end of the trunk one of the top planks had been removed, thus exposing to view the interior of the trunk. At that point there was a flow on the bottom of the trunk of about 2 inches in depth; the fluid was rather clear, but with considerable flocculent matter, and with frequent small bits, apparently of paper. At this point one length of the siding plank, about 15 or 18 inches above the bottom of the trunk, had been entirely removed and a passageway was open from the trunk to the side. The flat here was exposed, at the time of my inspection it was about 4 feet below high water, and the opening in the trunk was about 3 feet below high water. At this point the sound of falling water was very plainly heard, coming from within the trunk and towards its mouth. At the end of the trunk, at the outlet, the water of the creek was below the bottom of the trunk, and there was no effluent at all passing out from the trunk. The flow seen about 150 feet back must have been coming into the creek out of the bottom of the trunk, somewhere between that point and the end.

While passing down the trunk I noticed that the rising tide seemed, as it ran upon the flats, to bring with it, or lift from the flats, some impure matter which colored the water. There also seemed to be some oily substance occasionally floating upon the surface, with an iridescent appearance. I noticed also some footprints, apparently made by persons who had been walking on the flats adjacent to the trunk, and in these footprints there was the same oily, iridescent appearance.

Returning slowly up the trunk while the tide was gradually rising and the water running through the slight channels in the flats, I noticed that this water, when in these small channels, had not a clean and clear appearance as it had in the main body of the creek, where the tide was running up with some velocity. The water in these small channels, and as it spread over the flats,

d a soiled appearance, and as it continued to spread gradually ore and more over these flats, there was some floating matter, um, apparently impure, and which had the appearance I have equently seen at other places, of sewage floating upon water salt water. The exposed flats near the line of the end of the unk had considerable impure matter upon them; there was an lor, not very strong, but decidedly offensive, and, in my inion, resulting from the deposit of sewage matter.

Opening a manhole on the line of the brick sewer, about 300 et from its end, I found that there was a slight flow in the ttom of the sewer, similar in appearance to the flow I had served in the wooden trunk.

My next examination was made on the 14th of June, 1893, and as made during a falling tide. At that time there was in e same party, Dr. Balch, Mr. J. J. R. Croes, Mr. Gerhard, r. William Brown and Mr. Rowe. A manhole was opened wards the end of the brick sewer and there was at the bottom the sewer a flow of a moderate amount of sewage, its appearce being that of sewage that had floated a considerable disnce; small bits of what seemed to be paper being observed, t not to any great extent. There were some bricks or stones hich had apparently fallen in through the manhole and which ded in showing that there was a decided current in the flow. nother manhole nearer the end exhibited substantially the me flow. The same sound of water dropping from the trunk the water of the stream was plainly heard, and about the me flow seen through the opening at the point at where the ank had been removed from the top as was noted by me on e previous day and the mouth of the sewer was bare, no wage at all passing out of its mouth; the entire flow from the ick sewer passed out of the wooden trunk before reaching the d of the wooden trunk. The water subsiding on the falling de, exposed gradually the flats at each side of the wooden trunk d the characteristic scum of sewage in salt water was served and as the water retreated this matter was left upon e flats. The iridescent appearance noted previously was ain seen in the water at the sides of the sewer and decidedly

in the water of Mill creek, both above and below the end of the wooden trunk.

A boat was obtained and an examination was made of the stream for a considerable distance above and below the trunk sewer outlet. There were with me in the boat Dr. Balch, the secretary of the State Board, and Mr. J. J. R. Croes, C. E. We proceeded first up Mill creek, crossing from one side to the other and moved the bottom with the oars and with an oyster rake, which I personally used. We found near the outlet of the sewer that this movement of the bottom, wherever the bottom was soft, which was frequently the case, developed an immediate ebullition of gas, the bubbles of which brought up and showed when breaking on the surface the iridescent colors spoken of above; and on lifting the oar or the oyster rake there was, at each such point, a decided quantity of black material which had the appearance and the characteristic odor of coal gas tar. It had been suggested that this tar might come from smelting works which were located on Mill creek some distance, perhaps half a mile, above the outlet of the sewer. We proceeded up Mill creek and found evidence of coal tar until after we passed the last branch, or extension, of the creek to the westward before reaching the location of the smelting works. Beyond this branch or extension we found, after a careful examination, no ebullition of gas and no appearance of coal tar in the material brought from the bottom of the creek. We pushed this examination up close to the smelting works, with the result that there is, in my opinion, no reason for thinking that this tar or black material comes from those smelting works.

Returning down the creek and keeping up the observations we found the same results, the coal tar appearing again when we reached the point of extension or branch to the westward; the water in this branch or extension reaches around to the upper part of the wooden trunk sewer. Coming down to the mouth of the sewer we found within a few feet below it, on the bottom of the stream, a very large amount of this coal tar, and I raised with the oyster tongs a number of oyster shells, which

were so thoroughly coated with this tar and which bore with them from the bottom so large an amount of it that the boat was stained by it. I observed one of these masses of oyster shells and coal tar which I, myself, brought up from the bottom of the creek, and it was made an exhibit at the hearing before the committee of the Board. We found evidences of this tar down to and in the small branch to the westward, below the mouth of the sewer, through which branch we proceeded to the shore.

We examined from the boat the interior of the sewer, looking into it from the end, and it was, as stated above, without flow. We could see that there were openings in the planks, and we could also see from the boat that the water was running out of the bottom of the trunk and into the water below it at some distance from its mouth. We also saw the same evidence of sewage deposits, mainly the appearance of scum and some flocculent matter, at the edges of the water of the main creek, both above and below the sewer mouth, and also at the edges of the water of the branch up which we went in the boat.

There is no doubt in my mind that the effluent of sewage which was occurring along the trunk causes a deposit of sewage matter, which is left upon the flats. I have observed that sewage matter floats upon salt water and is carried up a stream by a rising tide. I saw this very recently in a sewage examination I have made, to a very decided extent. Where this water, with floating sewage upon it, spread out over flat areas, it is my opinion that upon the falling tide much material will be left, to be again picked up by the rising tide, and that under such circumstances much of it will not be carried away by a falling tide.

As to the results which will occur should the trunk sewer be made perfectly tight, or other means be taken to deliver all the sewage at the mouth, allowing none to escape during its passage from the high-water mark of the shore to Mill creek, there is, in my opinion, much force in the record of the experiments made with floats, under the direction of Mr. Croes, and in regard to the absolute accuracy of which the testimony of Mr. Hunt, assistant engineer, who made the experiments, has been

given. These experiments show that the floats, upon a rising tide, were carried up the stream and to the sides of the stream, and upon a falling tide were left upon the flats. I see no reason why sewage, which is lighter than salt water, and much of which floats upon the surface of salt water, should not be deposited in the same way, and I believe that a portion of the sewage effluent from this sewer, if it should be discharged into Mill creek, at the present mouth of the temporary trunk, would be carried by rising tides to the large areas of adjacent flats and would be left upon those flats by the falling tide.

Very respectfully, your obedient servant.

JOHN BOGART.

*Consulting Engineer State Board of Health.*

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ALBANY, *September* 14, 1893.

To HON. ROSWELL P. FLOWER, *Governor of the State of New York*:

Sir.—In accordance with the instructions received from you that the State Board of Health examine into the matter of the petition by residents of the town of Flatlands concerning the manner of discharging of sewage from the village of Flatbush into Mill creek, the said discharge causing a nuisance of menace and danger to public health, the Board respectfully submits the following report:

At a meeting of the Board held in New York city, June 6, 1893, a committee was appointed to examine into the matter and to take testimony concerning it, and report the facts in the case to this Board that they might be laid before your Excellency. The committee held their sittings on the 14th, 20th, 21st and 29th of June, and took such testimony as was presented by the counsel representing the petitioners and the sewer commissioners of Flatbush, the respondents. The testimony and also the report of the consulting engineer of this Board are herewith appended, and attention is respectfully asked to them.

It appears from the testimony that before the outlet was constructed or any discharge was made into Mill creek from the

ewer, examination of the tidal action in the creek had been ade by expert engineers who used floats to determine this tion, and showed conclusively that sewage discharged into e creek at the point where the outlet was to be located would t go out to sea, but would become stranded upon the flats, hich were bare at low tide. It is a well-known fact that wage is lighter in specific gravity than salt water, and there- re it is carried by the flood tide over ground covered by it, nd as the tide recedes, no current over the flats being created e sewage settles wherever it may have been carried, and gives f noxious odors where it is exposed to the action of the sun. is further shown in the testimony that the present outlet ill probably not be the only one which the sewer commis- oners expect to carry to tide water, and an examination made the 14th of June by the committee of the Board, its nsulting engineer, the engineers of the petitioners and by tes- mony of some of the witnesses, that deposits of sewage have ready been made upon the flats near to the outlet sewer and ore or less nuisance created. If more sewers are carried to is same stream, and more connections made with the present e in the village of Flatbush, it will not be long before a rious nuisance will be created which will require greater work r abatement than if measures preventive in character be w taken and further discharge of raw sewage from the present tlet be forbidden.

In dealing with all places where similar conditions exist, the ate Board of Health has required some method of sewage eatment to be adopted so as to avoid the creation of a nui- nce which must necessarily follow where raw sewage is dis- arged into salt water, and on account of tidal action can t be taken to such a distance as to prevent its return and eposit upon the shores.

The Board, therefore, comes to the conclusion from the prox- nity of dwellings to the outlet sewer of the village of Flatbush, at the discharge therefrom is beginning to create a nuisance menace to health, and, that when more connections are made ith the sewer, and the amount of flow is increased, this nui-

sance will become one of great danger, and that such a st
of things requires measures to be taken for abatement of
present condition and the prevention of further increase.

The Board, therefore, respectfully recommends that if y
Excellency considers proper, an order be made by you, requir
the sewer commissioners of the village of Flatbush, who,
virtue of their office, are technically the maintainers of
nuisance, to abate same, and the Board would suggest that
that:

First. The sewer be thoroughly cleaned and freed from
gas-house sludge which may have deposited therein.

Second. That the wooden conduit, which now leaks,
repaired and made tight.

Third. That plans be prepared for sewage disposal wo
capable of caring for all sewage calculated to be discharg
by this sewer, and that before construction, such plans be s
mitted to this Board for approval.

Fourth. That in case other outlet sewers are constructed
discharge in waters where similar conditions exist as are fou
in Mill creek, the sewer commissioners be required to provi
some method for the treatment of sewage, the plans for wh
shall be approved by this Board so that nothing but the clari
effluent be discharged, other disposition being made of
resulting sludge.

F. O. DONOHUE, M. D.,
*President.*

LEWIS BALCH, M. D.,
*Secretary and Executive Officer.*

"APPENDIX C."

# eport on the Industries Located on Newtown Creek, Kings and Queens Counties, N. Y.

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NEW BRIGHTON, N. Y., *April* 23, 1892.

EWIS BALCH, M. D., *Secretary New York State Board of Health:*

Sir.— In accordance with your instructions, I have, during the esent month, made a complete tour of investigation along both des of Newtown creek, Long island. The area covered in this our is embraced within Johnson avenue as a southern limit to he East river on the north. The eastern and western limits are rom a half to three-quarters of a mile from either bank of the reek. These limits have brought under observation an area bout five miles long by two miles wide, and to the best of my elief, every offensive trade, within the area has been located nd investigated, in addition to which, many others were visited, hich proved upon investigation to be inoffensive. In all, ome forty premises were visited. Inspections were made both by day and by night in order to note the methods employed at ll hours, and also to see the work in certain establishments hich is only performed at night. I also took occasion to visit he region in foul weather as well as in fair, in order that the ffect of the atmosphere might be observed in the diffusion of dors. Investigations were made on foot, in a wagon, or by oat, as the varying conditions required.

The principal sources of nuisance were found to be due to istilling and boiling of bones, rendering of dead animals, fat, fal and blood, mixing of fertilizing material, escape of sewage, ght soil and refuse of various kinds of organic matter into the eek, garbage dumping, and oil refinery odors and seepage.

The boiling of bones and rendering of fat may be the source greater or less nuisance according to whether the material

used is fresh or not, whether the bones are washed clean aft boiling, or are stored with much of the meat still adhering them, whether the meat scrap is dried or stored in a wet cond tion, and whether or not the animal matter is used afterward in the mixing of fertilizers. The description of each establish ment will show which are the most offensive or most liable t give offense in each instance. Apparently the most far-reaching persistent and unmistakable of the various odors from th region, is that evolved from the distillation of bones, and thu far, all attempts to completely control it have failed.

The establishments may be divided according to whether the are located in Kings or Queens county, that is the west or eas bank of the creek.

Following is a complete list of those which were visited:

## East Side of Newtown Creek (Queens County).

Settle's tannery.—North side of Johnson avenue. Som refuse is thrown out of this establishment, but it is merely a insignificant fraction of the filth with which all the vacan land in this vicinity is being filled in. Every co ceivable kind of waste material is being utilized to f in and raise the lots to the level of the adjacent streets. T land thus made already comprises many acres, and in plac the material is ten to fifteen feet in depth. Where the draina from this material has had a chance to accumulate, pools of t most offensive liquid filth may be seen, and even where n visible, the entire drainage of the region must eventually fi its way into Newtown creek. This process will be a gradu and slow one, extending over many years, the storm water p colating through the filth, bringing into solution such as it possible to dissolve, and eventually finding its way into t creek.

The storage of manure alongside the Long Island railro track, contribute to the general offensiveness of the neighb hood. From this region alone, there is a permanent source contamination for Newtown creek, and the atmosphere of t vicinity for years to come. The odors arising from the gene

filth could be noticed at the time of inspection for a distance of a half mile on the hill towards the south.

John Barnett's Son's starch-works.—On the meadows, between Metropolitan avenue and Grand street. Starch is manufactured from damaged flour and wheat. The entire drainage from this establishment is allowed to run into an open ditch, and eventually into the creek. The tumble-down shanties which serve for the factory are in an indescribable condition of filth and decay.

John Ackerman.—Fat boiling. Located in the immediate vicinity of the latter. Have never found anyone at work here. Was informed that work is carried on at irregular intervals.

C. Meyer; Furnam's island.—Bone-boiling, bone-burning and fertilizers. "Green" bones are boiled in open kettles, then washed and stored in open sheds until ready for burning. The "scrap" boiled and washed from the bones, is pressed, dried in a revolving cylinder, through which the draught from the boiler fires are passed. This is afterwards mixed with sulphuric acid, spent bone black and other material, forming a fertilizer. The mixing is carried on in a separate building at the rear of the premises.

Burning, or rather distilling the bones, is accomplished in vertical retorts. The resulting vapors are passed through condensers in order to separate out the tar and ammonia. All gases which remain uncondensed are drawn into the fires and consumed. The ammonia is mixed with sulphuric acid in order to make sulphate of ammonia, and the tar is burned for fuel.

After all grease has been removed from the water in the boilers and washing vat, the "soup" is allowed to run through an open ditch into the creek.

J. & C. Muller; Furman's island.—Bone-boiling, bone-burning and fertilizers. A description of this establishment would be practically a repetition of the preceding, except that the bones are not washed, but are stored with much of the scrap adhering to them, and the scrap which has been separated is not dried, but is stored or mixed in a wet condition. From this it will be seen that the sources of offense are increased on these premises.

Tuozzo & Latting; Furman's island.—Bone boiling and fat rendering. Three open kettles are used for boiling bones, and general household refuse. The bones are washed and sold to O. Meyer. The scrap is pressed and sent to Barren island. If there is more accumulates than can be disposed of it is heaped up and treated with sulphuric acid. The water from the kettles and washer, after the grease has been skimmed off, is allowed to run into an open ditch and eventually into the creek. There are also two open kettles used for rendering fresh butcher's scrap for the fat.

Herman Weil; Furman's island.—One open kettle. Renders fat from refuse scrap gathered from garbage. The fat is sold to soap factories, and the resulting scrap is shipped to "New Jersey."

Louis Stern; Furman's island.—Renders fresh butcher's scrap in two open kettles. The fat is sold to soap factories, and the scrap is pressed and shipped to Philadelphia.

Conrad Pfleging; Furman's island.—Renders all sorts of butcher's and slaughter-house refuse and offal in two open kettles. Disposition of resulting material could not be ascertained.

Rausch & Company; Furman's island.—Boil fresh bones and fresh offal in seven open kettles. One kettle is used exclusively for the offal. The bones are washed and the scrap is pressed and dried in revolving cylinder. Both bones and dried scrap are sold to various fertilizer factories. The water from the boilers is cooled in order to recover the grease, and is then evaporated and glue manufactured from it.

Heinrich Steiner; Furman's island.—Renders fresh and stale scrap for fat in one open kettle. Could obtain but little information in regard to source of supply or disposition of resulting material.

Andrew Wissels; Furman's island.—Has the offal contract for Brooklyn. All dead animals gathered in the streets and considerable slaughter-house refuse is rendered, under pressure in three closed tanks. The bones and scraps, after rendering, are sold to various fertilizer factories. Arrangements are now under way to provide four new rendering tanks and a solid

e floor for the building, so that it may be washed and
thoroughly each day.

Bros; Furman's island.— Said to render fat in open ket-
odd times. Have not found the place open.

lderbrand; Furman's island.— Boils blood, hair, offal, etc.,
open kettles, and manufactures a fertilizer by mixing
aterials with sulphuric acid.

mmerman; Furman's island.— Has the offal contract for
county. Renders dead animals in one closed tank. The
g scrap and bones are sold to various parties.

ard Preston; Furman's island.— Bone-boiling and burn-
ones are boiled in one large open kettle, and washed in
. Grease is recovered from the water, which is then
to run in the marsh and eventually into the creek.
ap is pressed, dried in a revolving cylinder and sold
us parties.

ones are distilled in vertical retorts and the resulting
ia is mixed with sulphuric acid to form sulphate of
ia. No attempt has been made to carry off the fumes
e sulphate of ammonia pan. The tar is used for fuel.

Hoeffner; south side of Penny bridge.— Renders fresh
's scrap in one hooded kettle. The hood of the kettle is
ed with the chimney flue by means of a pipe. By this
ment the fumes from the boiling fat are carried into the
, but are not consumed or condensed.

s fertilizer works; south side of Penny bridge.— Many
t kinds of material are utilized here. Phosphate rock,
of potash, spent bone black, fish and meat scrap, &c.
re mixed with sulphuric acid in varying amounts, accord-
the grade or kind of fertilizer desired. When animal
is used there is no doubt that considerable nuisance is
ed. I was told that meat and fish had been used
, but that no more would be obtained after the stock
hand was exhausted.

l's chemical works; south side of Penny bridge.— Manu-
various chemicals, especially sulphuric acid. With the
n of the choking or tickling sensation caused by the

sulphurous fumes, I found no process or material that could be classed as offensive.

Preston Fertilizer Company; Blissville.—Bone-boiling and burning and fertilizers. This firm is now engaged in perfecting an apparatus for subjecting all their scrap and bones to treatment with naphtha, and the claim is made that by this means the boiling of bones will be entirely done away with. At present the boiling is done in open kettles, and the bones are freed from scrap by washing. All the water from the boilers, after the grease has been separated, is allowed to run into the creek. The scrap is mixed wet, with sulphuric acid and other materials and converted into a fertilizer. The bones are distilled in vertical retorts, which are filled automatically. By this means the retorts are kept constantly filled at the top with fresh bones, while the distilled bones are drawn out at regular intervals from below. The gases are utilized in the usual way, for the manufacture of sulphate of ammonia and the residual gases are burned in the fires. No attempt has been made to control or destroy the fumes from the sulphate of ammonia pan. The tar is barrelled and sold to parties in the west.

Queens County Oil Works; Blissville.—These works take the tar from other refineries, after the illuminating oil has been distilled off, and treated for the recovery of heavy oils and parrafin. So far as an oil yard can be kept clean, these premises compare very favorably with any in the business. I failed to detect any needless escape of gas or refuse, but the mere presence of an oil refinery is an inevitable nuisance, no matter what care may be exercised.

Eastern Distilling Company's Distillery and Cattle Stables; Blissville.—The distillery is located on the east and the stables on the west side of the Long Island railroad track. Yeast is also manufactured in connection with the distillery. The cattle are fed with the waste slops or mash from the distillery, with some hay. Such as is not used in this way is passed through a screen in order to separate the grains from the liquid portion. The liquid part is discharged into the creek, and the grains are dried, bagged and shipped for chicken and cattle feed.

The cattle, about 300 in number at the time of inspection, consist of beeves which are being fattened for the market. The waste slops and all filth is scraped or allowed to run into a wooden conduit which empties in the creek. It is claimed that the feeding troughs are flushed with fresh water each day, and that the stalls are cleaned twice a day, but as the cattle are not removed for weeks or months at a time the condition of the premises is very offensive.

Peter and John Van Iderstine; Blissville.—Fat rendering from fresh butcher's scrap. All the kettles in these establishments are hooded, connected with a suction conduit and finally with a condenser, so that the fumes and vapors are drawn off the kettles and condensed. They are the only parties on the creek engaged in this business who have adopted any adequate means for controlling the resulting vapors.

Thompson and Bedford Refining Company; Blissville.—(No nuisance.)

### West Side of Newton Creek (Kings County).

Wissel's Night Soil Dump.—Near foot of Maspeth avenue. South side and Newtown creek. A scow is moored at a dock on the creek, into which is dumped the contents of privies and cesspools cleaned out by the scavangers in Brooklyn. Considerable complaint has been made in regard to careless dumping or willful discharge of material into the creek. The waters in and about this vicinity are evidently very much contaminated with sewage or night soil, but this may be due to the Grand street sewer which discharges into the creek not very far above.

Kalbfleisch's Chemical Works; Grand street and Metropolitan avenue, Brooklyn.—Manufactures various chemicals such as ammonia, sulphuric acid, &c. The sulphurous fumes generated in the manufacture of the latter product are quite noticeable on the streets in the vicinity and cause the characteristic tickling sensation in the throat. With this exception the presence of these works would hardly be noticed.

Peter Cooper's Glue Factory.—North side of Maspeth avenue and Newtown creek. Manufacture Neat's foot oil and glue from fresh cattle feet, and glue from stock which has been sub-

jected to treatment with lime. The most serious problem in con nection with this establishment is the disposition of th drainage from the liming tanks. This is at present partly dis charged into a large artificial pond on the meadows, where th lime and finely divided animal matter held in mechanical sus pension has a chance to settle before the water enters the creek Part is also run through a series of traps in a paved basin i order to effect the same result. If fresh stock only is receive there need be no appreciable nuisance from these premises. have thus far noticed only sweet and fresh stock delivered there

Demuth Bros., Glass Works.— (No nuisance.)

Louis Fries.— Located in the meadows south of Meeker avenue Renders fat and offal in open kettles. Have not found an work going on recently. Was informed that he only works a intervals.

Jos. Rosenburg.— South side of Meeker avenue near Penny bridge. Fat rendering in two hooded kettles. The hoods are provided with pipes which are turned down and under the fires. If the hoods are kept closed there is no reason why the vapors should not be consumed. Only fresh butcher's scrap is used and the premises are kept in as clean a condition as possible in such business.

Kings County and Empire Oil Works.— These works now comprise several of the smaller refineries formerly located in this vicinity. Crude oil is distilled and naphtha redistilled. Kerosene is refined and heavy oil and tar is sent to the Queens county works for further treatment. Aside from the inevitable oil yard odors and leakage there is practically nothing to be recommended.

Eclipse Lubricating Oil Works.— (No nuisance.)

Brooklyn & Devoe's Oil Works.— West side of the creek near the mouth. A general oil refinery business is carried on here. The conditions are similar to those previously mentioned.

In connection with the discussion of the oil refineries it is evident that considerable leakage of one sort or another must be accounted for. The waters of the creek constantly show the presence of oil or oily refuse and the banks are coated with it.

Part of this is due to accidents, and part to the constant seepage from the adjoining land, much of which has been filled in with oil yard refuse. Even if every refinery should be removed it would be a long time before the effects of past management would be obliterated. Formerly by-products which are now utilized in many different ways as matters of economy, were allowed to run to waste or were disposed of in the easiest available manner. At the present time I fail to find any intentional discharge of refuse matter either on the ground or into the creek. So far as the creek itself is concerned, it is doubtful if it can ever be made free from offense so long as it remains a dead end at its upper part. Several schemes have been suggested to connect this part with tide water by an artificial channel and thus obtain a thorough flush. This appears to represent the only adequate solution for a mitigation of the foul condition of the waters, which are certain to become worse as population increases and draws nearer to the banks. The natural drainage for a very large area is into the creek and must inevitably take this course.

Respectfully submitted.

ARTHUR HOLLICK,
*Inspector.*

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ALBANY, *July* 6, 1892.

To HON. ROSWELL P. FLOWER, *Governor of the State of New York:*

SIR.—On March 25, 1892, your Excellency referred to this department a petition signed by numerous inhabitants of East Brooklyn, requesting that your Excellency direct this Board to examine into the condition of certain factories in Long Island City and on the borders of Newtown creek and make report as to whether nuisances of menace to health existed in the district complained of, with such recommendations as the Board might suggest for the relief thereof, in accordance with the provisions of section 8 of chapter 322 of the Laws of 1880, as amended by chapter 308, Laws of 1882.

While the preliminary steps for this work were being taken and examination of the various stench-producing industries on

each side of Newtown creek, in the counties of Kings and Queens was being made, the honorable Legislature passed a bill which received the approval of your Excellency on the 17th of May, and is now entered as chapter 646 of the Laws of 1892. The provisions of this law render any examination, report and suggestions from this Board, for your Excellency's action or order, regarding the nuisances existing on the shores of Newtown creek a work of supererogation, for the law forbids the continuance of stench-producing industries within three miles of a city's limits, and charges the local health authorities with the enforcement of its provisions.

The relief of the petitioners in this case can now be obtained from local officers in the cities of Brooklyn and Long Island City.

By direction of the Board the petition is therefore respectfully returned, and awaiting any further directions your Excellency may give in the matter, I remain.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary and Executive Officer.*

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NEW BRIGHTON, N. Y., *September* 22, 1892.

LEWIS BALCH, M. D., *Secretary New York State Board of Health*

Sir.—In accordance with your instructions I have made a reinspection of all the offensive industries in the vicinity of Newtown creek, described in my report of April 23, 1892.

In describing the present condition of the various factories, the same sequence will be used as in the previous report, so that the two may be readily compared.

Settle's Tannery and vicinity.—The conditions prevailing are practically the same as before. In places the garbage has been covered with earth, but new accumulations have more than kept pace with those which have been covered.

Barnett's Starch Factory.—Closed. Was informed that is was doubtful when work would be resumed.

John Ackerman.— Closed. No indication of work having been done there for some time.

C. Meyer.— Bones were being boiled and work proceeding as usual, except that the bone-burning is temporarily discontinued while new retorts are being constructed.

J. & C. Muller.— An improvement has been made in these premises by the erection of a cold-water condenser and hood for the control of gases arising from the saturating pan. I suggested that this should be done at the time of my previous inspection. If proper care is now exercised, the former nuisance from this source will be considerably mitigated. Bones and fresh offal were being boiled as usual.

Tuozzo & Latting.— All work suspended. This firm depended largely for its supplies on bones, etc., picked from the New York city garbage dumps. Picking from these dumps having recently been prohibited, their supplies have been cut off.

Herman Weil.— Fat rendering same as before.

Louis Stern.— Fat rendering same as before.

Conrad Pfleging.— Fat rendering same as before, except that the material used was of better quality and the premises in a more cleanly condition. Ascertained that the scrap, after having been pressed into cakes, is shipped to Philadelphia, and the tallow is barrelled and sent to Europe. I failed to obtain this information on the occasion of my previous inspection.

Rausch & Co.— Work proceeding as usual, except that the process of glue-making has been abandoned.

Heinrich Steiner.— Closed.

Andrew Wissels.— Since my previous inspection, the improvements promised at that time have been adopted. Four new closed rendering tanks have been provided and the ground floor concreted. Other improvements are contemplated, but recent legal action against the firm has caused them to stop, pending further developments. The ordinary work of the establishment was proceeding as usual.

Barr Bros.— Melt and mix fat in two open kettles. Closed at the time of my previous inspection.

C. Hildebrand.— Closed.

A. Zimmerman.— Found work proceeding same as on previous occasions, when place was inspected.

Edward Preston.— All work temporarily suspended while new boilers are being put in. Since my previous inspection arrangements have been made to cremate the vapors arising from saturating apparatus, in regard to which I had occasion to complain. The plant not being in operation, I was unable to judge of its effectiveness, but see no reason why it should not very materially assist in mitigating the trouble from this source.

Fred Hoeffner.— Work preceding as usual.

Reed's Fertilizer Factory.— Found no meat or fish scrap on the premises, in regard to which I had to complain on the occasion of my previous inspection. Apparently the principal substance now being manufactured is superphosphate, from Charleston rock and fresh acid.

Preston Fertilizer Company.— The greatest transformation in the whole region has been made at this establishment. The boiling of bones and offal has been entirely abandoned, and a process adopted by which all material is treated with naphtha in closed tanks. The process is absolutely inoffensive. The saturating pan has been covered so as to control the fumes from the sulphate of ammonia, and all refuse material which formerly filled the corners and sheds has been removed and the entire premises cleaned. The change is very gratifying and leaves but little further to be desired in such a plant.

Queens County Oil Works.—Working as usual. No changes since previous inspection.

Eastern Distilling Company's Distillery and Cow Stables.— Distillery working as usual, but no cattle in the stables, which are closed.

Peter and John Van Iderstine.— Working as before. Premises in excellent condition.

Wissel's Night Soil Dump.—Conditions practically unchanged since previous inspection.

Peter Cooper's Glue Factory.—Work preceding as before. A change in the disposition of the lime water has been made, in accordance with the terms enjoined upon the firm by the court.

s an outcome of recent action by the health authorities of rooklyn. The settling pond in the meadows has been aband- ied, and all drainage from the liming tanks now passes through e paved basin in the yard, and thence directly into the creek.

Louis Fries.—Closed.

Jos. Rosenberg.—No work going on. Found the place in arge of two policemen of the Brooklyn police department, who d instructions to see that it was kept closed.

Kings County and Empire and Brooklyn and Devoe's Oil orks.—Conditions prevailing are practically the same as at e time of previous inspection.

In conclusion, I wish to again reiterate that the greatest source pollution at the present time, to the waters of the creek, is doubtedly the sewage poured into it from the public sewers Brooklyn. As long as this source of pollution remains, the ndition of the creek will continue to grow worse, no matter hat disposition may be made of the factories.

Respectfully submitted.

ARTHUR HOLLICK,
*Inspector.*

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on. THOMAS NEWBOLD, *President State Board of Health:*

Sir.—In accordance with a resolution of this Board, dated eptember 28, 1892, appointing a committee to investigate and port to the Board regarding certain nuisances complained of and about Newtown creek, in the counties of Kings and ueens, this committee does report as follows:

The committee held three meetings at the city hall, in Long land City. Due notice was given by the secretary of the oard, both in the public press of Brooklyn and Long Island ty. Also notices were served by mail on all manufacturers hose places were in this district, as well as on those persons ho had written the State Board making complaint or asking be heard.

At the first hearing, October 5, no evidence was presented by the complainants. The authorities of Brooklyn stated that they were not quite prepared to present their evidence. However, it is proper to say that many of the manufacturers who, it was claimed, were creating a nuisance, put in a general denial of the fact.

On the second meeting, October 9, numerous citizens and property owners of the east part of the city of Brooklyn, living not less than three-quarters of a mile from said nuisances, appeared and testified that they had suffered in health, comfort and property depreciation on account of certain foul and offensive odors coming from the establishments located on Furman's island and elsewhere, which odors had been traced by them to these places. In some instances these observers were certain of the facts of the identity of the establishments causing the nuisances, as the odors had been traced directly within them. The Brooklyn city authorities, represented by the assistant corporation counsel, Mr. Gilbert, presented the evidence of three of the inspectors of their board of health, which evidence was corroborative of the statements made by the citizens in so far as the production of nuisances was concerned; and they also stated facts bearing on the conduct of the business confirmative of its nuisance-producing character.

The third hearing, November 10, was brief, owing to the stipulative proceedings already in progress between the city of Brooklyn on the one hand and the nuisance producers on the other. Stipulations which were said to be entirely satisfactory to the complainants. However the statements of the experts of this Board were taken, which statements are now in the possession of the Board in the form of reports.

According to a statement made to Inspector Hollick by competent authorities of Brooklyn, on November 16, thirteen of the nuisance-producing establishments have been closed already and are no longer subjects of complaint. Three additional establishments have stipulated to close within ten days of these two were closed November eleventh. Another, the Peter Cooper Glue Company, has stipulated to close in March

1893. Four others are at present in conference with the authorities of Brooklyn, looking to satisfactory arrangements between them.

There remains then but one establishment which has been complained of, the Preston Fertilizer Company, situated on the creek in Blissville. The proprietors of this nuisance-producing establishment express no inclination of closing their business, or of entering into any conference with the authorities bearing on its conduct.

The committee deem it inexpedient at present to make any specific recommendation regarding this last-named place, as in the event of failure of satisfactory arrangements with any of the above-mentioned parties, the attention and action of the Board can then be promptly and effectively directed against all offenders simultaneously.

The second element in the complaint of the citizens of Brooklyn, Blissville and Long Island City is the foul and offensive water of Newtown creek.

An examination of the water by the experts of this Board developed the fact that the main sources of pollution have their origin, first, from the sewage of Brooklyn; second, from the sewage of Long Island City and Blissville.

The discharge of refuse water from the nuisance-creating establishments along the creek was ascertained to be of minor importance at first, and since closure of these places is scarcely entitled to the dignity of a consideration in this report. However, we were made painfully aware, by the evidence of complaining citizens, of the fact that a great local source of offensive odors and water pollution had arisen on various occasions, due to the entrance (intentional or otherwise) of night soil into the waters of the creek at its Brooklyn side.

Considering the best methods of purifying the water of the creek, it must be recognized that the tide flow in it is sluggish and inadequate to change materially the character of its contents, as the tide simply pushes to and fro the offensive contents of the creek as it enters that stream. The result of this is that the silt and other semi-solid materials contained in, and also

discharged into the creek, are changed but little in their relative situations and the fermentative changes taking place in them create additional odors of a foul and offensive character, which is evidenced by the fact that gases dependent on putrefactive changes are constantly being discharged into the open air.

The remedy for these conditions will be the offspring of engineering skill.

The consulting engineer of the Board, Mr. John Bogart, who is quite familiar with the creek and its surroundings, deems it advisable to cause to be discharged into and through the creek a stream of fresh water. By this means (the same as in Milwaukee) it is believed the nuisance will be abated.

Various expedients to meet this indication have been suggested already. One, piping from Flushing bay, another, the turning into the creek of a small neighboring stream.

The committee deem it wise, however, that this phase of the subject be given a more careful and comprehensive study than heretofore, ere a final opinion be given.

The committee therefore reports progress and asks time for further consideration. All of which is respectfully submitted.

JOSEPH D. BRYANT.
MAURICE PERKINS.

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BROOKLYN, *January* 10, 1893.

Dr. LEWIS BALCH, *Secretary of the State Board of Health, Albany, N. Y.:*

Dear Sir.— The following is a statement of the exact status of the various factories and concerns on or about Newtown creek:

The following factories are in operation but agreements have been given to remove the same within a specified time, which has not yet expired: Peter Cooper's Glue Factory, Baker & Hulse, fertilizers; John Moller & Co., Acme Fertilizer Co.

Edward Preston & Co., have ceased bone boiling and manufacturing fertilizers; their business is now exclusively that of the manufacture of bone black.

he following factories have been closed: Christopher Hilde-
ıdt, Louis Stern, George Ackerman, Michael Tuozzo, Henry
l, Conrad Pflegering, Henry Sternner, Rausch Fertilizer Co.,
lrew Wissel, Abraham Zimmerman, Baehr Bros., Joseph
fner, Van Eiderstine & Co., Joseph Rosenberg, Joseph Fresse.
he buildings formerly occupied by Henry Sternner, Abraham
merman and Baehr Bros. have been torn down. Baehr
s. have removed into the building formerly occupied by
ıry Weil, and it is used as a receiving place for raw materials,
veying it thence to their factory outside the prescribed limits.
:edings have been commenced against the Preston Fertili-
Company for violation of the provisions of the so-called
ld's bill.

seems to me well that the State Board of Health should
close their hearing until after the time fixed by the agree-
its with the foregoing-mentioned concerns, within which
y should remove their factories respectively. I have no
bt that they will comply with their agreements, but it would
ı safeguard to know that the State Board of Health had not
ually closed its investigation.

there is any further information that you desire I will
lly furnish it upon request.

Very respectfully yours.

WM. T. GILBERT,
*Assistant Corporation Counsel.*

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NEW BRIGHTON, N. Y., *January* 19, 1893.

S BALCH, M. D., *Secretary New York State Board of Health:*

— In accordance with your instructions of January 14,
ıade a complete inspection of the Newtown creek
ın, visiting all the establishments mentioned in the com-
ication of Mr. Gilbert, as well as the Reed Fertilizer Works,
mentioned in his list. The name of Cord Meyer, which Dr.
nt notes as not appearing on the list, is embraced in the
e Fertilizer Company.

The following memoranda will show the status of each establishment: Peter Cooper's Glue Factory, working same as before. Was informed by the superintendent, Mr. Chas. Cooper, that no stipulation to move had been made.

Baker & Hulse.—Work stopped and place to be permanently closed February 5, on an order from the Newtown board of health, "To discontinue work and remove all objectionable matter, &c." Declared a nuisance.

John Muller & Co.—Working, under stipulation to close March first. Action taken against them by Brooklyn under the Shield's bill.

Acme Fertilizer Company (Cord Meyer.)—Same as Muller.

Edward Preston.—Ceased boiling bones voluntarily, but made no stipulation. Is now doing nothing but bone burning, which is not prohibited under Shields bill.

Hildebrandt, Stern, Ackerman, Tuozzo & Latting, Weil, Pflegeling, Steiner, Rausch & Co., Zimmerman, Baehr Bros., Hoefner, Rosenberg, Freese and Van Iderstine were either closed or torn down.

Andrew Wissels.—All work has ceased, except that dead animals are received, skinned, cut up and shipped by boat in barrels to factories in Newark. The offal contract with Brooklyn has been modified to this extent.

Preston Fertilizer Company.—Work proceeding as usual. Action begun against them by Brooklyn under the Shields bill. Have signed a stipulation to close April first under certain conditions. A copy of this stipulation is annexed.

Reed Fertilizer Company.—Working as usual. Superintendent on premises could not give me any information in regard to any stipulation. Said that so far as he knew none had been signed.

Respectfully submitted.

ARTHUR HOLLICK,
*Inspector.*

(Copy.)

GREENPOINT, L. I., *January* 14, 1893.

GRIFFIN, AS COMMISSIONER, *against* PRESTON FERTILIZER CO.

In consideration of a stay of all proceedings against the bove-named defendant the said defendant does hereby agree to ease or remove all business of fat rendering, bone boiling, the anufacture of fertilizers and any business prohibited by law nd which is, or shall be declared by the health department of rooklyn, as injurious to the public health from its present cation, within such time as the same can be reasonably done, ot later in any event than April 1, 1893, to a place not less han three miles outside the present city limits. It is declared hat the purpose of this agreement is to afford the said defend- nt a reasonable time to comply with the requirements of exist- ng laws. It is understood, however, that the defendant does ot waive any rights which may accrue through a repeal of xisting laws or by reason of a judicial interpretation of such ws as shall declare any part of its present business legal.

Pursuant to authority.

CHARLES W. PRESTON,
*President.*

T. A. DISBROW,
*Secretary.*

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*March* 1, 1893.

LEWIS BALCH, *Secretary State Board of Health:*

Sir.— As requested, I have examined the subject of the pos- ility of ameliorating the condition of Newtown creek, Long and, by the introduction of a supply of pure water, and pre- t herewith the results of this examination:

Newtown creek is an arm of the East river and extends from t river inland, in an easterly direction, for a distance of out two and one-half miles. It forms the boundary for this tance between the counties of Kings and Queens, and between city of Brooklyn on the south and Long Island City and

other communities in Queens county on the north. It divides near its head into two branches. The southerly one, called the Bushwick branch, has been docked and brought into the form of a canal with a regular prism, terminating finally in low, marshy ground above the Metropolitan avenue bridge. The northern branch, called Maspeth creek, extends about a mile and a half beyond the head of Newtown creek proper in the direction of the village of Woodside. Another branch, called Dutch kills, enters Newtown creek from the north about three-fourths of a mile from the East river and extends northerly about one and one-half miles. This has also been docked for a short distance from its mouth.

The area of the natural watershed of Newtown creek is about fifteen and a half square miles. A considerable portion of this area is already built upon, and grading of streets and occupation by buildings is in constant progress. The parts of Brooklyn and of Long Island City within this area which are already built up are generally provided with sewers, which take the surface water directly to the East river and do not empty into Newtown creek. Three sewer systems of Brooklyn now do discharge into the creek, but plans have been made by the department of public works of that city for an intercepting sewer and other provisions to conduct all, or nearly all, of this effluent directly to tide water in the East river, and as building improvements progress in the future in all parts of this drainage area, arrangements will be demanded by considerations of public health, and will therefore probably be made, to conduct the sewage and drainage generally away from Newtown creek and into the rapid current of the East river.

Therefore the moderate amount of rainfall now reaching Newtown creek will be decreased in the future and the stream will become more decidedly only a tidal branch of the East river, with little flow beyond that caused by the tidal rise and fall. Much of the rainfall that does reach the stream passes to it through the marsh and loam of the district at the heads of the creek and brings with it more or less earthy matter in suspension.

Actual observation shows that the present movement of water in this stream is not sufficient to result in a scouring effect or to prevent the deposition of sediment and foreign matter which comes into the stream from various sources. Dredging has to be done frequently all along the creek, to remove sediment and secure and maintain the depths required for navigation.

Newtown creek is an important element in the commercial life of the communities upon its shores. A very large amount of shipping passes through it and if it is possible to bring its waters to a reasonably pure state and maintain them in that condition, such a result would be of decided economic value.

If a considerable amount of pure water could be introduced into Newtown creek, its existing foul condition would be sensibly relieved by the consequent dilution, and if the introduction of such pure water could be continued and, particularly, if it could be introduced at or near the head of the creek, and at suitable times with reference to tidal flow in the creek, there would probably result a more effective scouring action than now occurs, with a decided change in the condition of the stream.

Two great bodies of pure salt water exist at moderate distances from the head of Newtown creek, namely, Flushing bay and Jamaica bay.

Jamaica bay lies to the east at a distance of about five miles from the docked portion of the southerly or Bushwick branch of Newtown creek. Along the line between these waters the land rises from Jamaica bay very slightly for three-quarters of a mile; then rises in a distance of another three-fourth mile to an elevation of about forty feet above tide; there then occurs a level plateau of about half a mile, extending to the foot of the Ridgewood hills; it then rises in a distance of three-fourths of a mile to the summit of these hills, at an elevation of about eighty feet above tide, maintaining substantially that elevation for one-fourth of a mile; it then descends rapidly, reaching in a half mile to an elevation of about thirty-five feet above tide; it is then comparatively level for a mile and a half, and thence

descends in the remaining half mile to the low ground at the head of Newtown creek.

This great elevation of the Ridgewood hills prevents the consideration of an open cut or canal between Jamaica bay and Newtown creek, except at very great expense. It would not, however, prevent the construction of a conduit of masonry which might be accomplished by tunneling through all that portion of the route where the necessary depth of the conduit would be too great to economically allow open cut excavation. This possibility will be referred to in a subsequent part of this report.

Flushing bay lies directly north from the head of Newtown creek. It is a portion of Long Island sound, its mouth between College Point and Sanford Point being over a mile wide, and it extends easterly from the sound about two miles, with a width of one mile. A tidal creek, called Flushing creek, enters the head of the bay, flowing for a considerable distance through low salt marsh and draining some extent of country.

The distance by the most direct line from the head of Newtown creek to the shore of Flushing bay is four miles. From the head of Newtown creek to the bridge over Flushing creek on the road between Corona and Flushing, the distance in a direct line is also four miles. The map herewith presented shows Newtown creek, Flushing bay, Flushing creek and the neighboring country.

The land between Newtown creek and Flushing bay and creek is undulating, with some hills of considerable elevation. An examination of the ground shows, however, that there are valleys and depressions of such a nature as to permit a line to be found along which the surface will not, for any long distances, rise greatly above tide level. The extraordinarily severe and stormy weather which has continued almost without intermission since I was asked to examine this subject has rendered it impossible to make a survey and location of such a line at a reasonable expenditure. Fortunately the possibility of the construction of a waterway between these two waters had some time since engaged the attention of the Messrs. Cooper, and they had caused a survey to be made of two lines, one connect

g Newtown creek with Flushing bay at the mouth of Trains eadow brook and the other line connecting Newtown creek ith Flushing creek about two miles from its mouth at the ead of Flushing bay. Mr. Edward Cooper and Mr. Charles W. ooper have most kindly furnished me with these surveys and ith the profiles, showing the elevations of the surface of the round along the lines surveyed, and copies of these surveys and rofiles which were made for the Messrs. Cooper by Mr. Cor-elius Hyatt, C. E., are submitted herewith. They show the cation of each of these surveyed lines and a profile of the rface of the ground along each.

These surveys were made in order to ascertain the practica-ility and probable cost of the construction of a canal connect-ng Newtown creek and Flushing bay. The dimensions sug-ested by the Messrs. Cooper for this canal were 150 feet width t water surface, with slopes of forty-five degrees, giving a width t bottom of the canal of 120 feet and a depth of water in the anal of 15 feet. An approximate estimate of the cost of uch a canal, including the land required for right of way and he dredging to reach a proper depth in the bay, amounts to 1,750,000.

I do not understand that it is within the scope of the instruc-ions given me to discuss the commercial value of this sug-ested canal. If such a canal should be constructed, gates of ome kind and, possibly, a lock should be provided and operated o insure a flow into Newtown creek of pure water for sanitary nd scouring purposes.

The question now to be considered is whether a flow of pure water into Newtown creek can be secured in quantity sufficient o effect the dilution and scouring desired and at a cost less than would be required to construct this canal. If this can be done hen it may be afterwards proper to compare these two con-tructions and determine whether the greater cost of the canal s warranted by its commercial value. This latter point will ot be discussed here.

It would, of course, be possible to lay a metal pipe or a asonry conduit across this space between the bay and New-

town creek and force the requisite amount of pure water through the pipe or conduit by pumping. A successful undertaking of this nature has been in operation at Milwaukee since September 1888. Previous to that time the sluggish water of the Milwaukee river was constantly foul. A flushing tunnel about 2,500 feet long was constructed from Lake Michigan to the river. The conduit is circular, with an inside diameter of twelve feet, is built of brick and is seventy-five feet below the surface of some of the streets of Milwaukee. It was built by tunneling directly through the ground. It has gates at either end. The pure water of the lake is forced through this conduit by a peculiar forcing wheel, constructed somewhat like a propeller wheel and moved by steam power. The machinery was built by the E. P. Allis Company, and sends about 420,000,000 gallons through the conduit every 24 hours. The length of the river flushed by this water is about three and one-third miles and contains about the volume of water which is thus pumped into it, so that the water is displaced once every twenty-four hours. Mr. G. H. Benzenberg, C. E., the city engineer of Milwaukee, informs me that this flushing of Milwaukee river proved an immediate success after starting the pumps, and that there has not been the least trouble with the river since that day.

While it is true that by a pump operated by steam large quantities of water can be forced through a conduit of comparatively small size, yet the operation of these pumps requires continuous care, attention and expenditure, both for maintenance and for repairs. If it is possible to secure the desired flow automatically by gravity, the economic solution of the problem becomes much more simple.

An examination has therefore been made of the tidal flow in Newtown creek, at its mouth and at its head, in Flushing bay at the point where the topography of the country indicates a proper location for the inlet to a conduit, and in Flushing creek at a point chosen for the same reasons.

Again, I regret to have to state that the weather has not permitted the number of tidal observations I had desired, but

ufficient data have been secured to warrant the conclusions ereafter given.

Simultaneous observations of the tide were made at the points eferred to above, and indicated on the accompanying map by he figures 1, 2, 3 and 4. Tide gauge No. 1 is on Flushing bay t the mouth of Trains Meadow brook. Tide gauge No. 2 is on Flushing creek at the bridge between Corona and Flushing. Tide gauge No. 3 is at the head of Newtown creek at the Maseth creek or northerly branch. Tide gauge No. 4 is at the mouth of Newtown creek where it enters the East river. These idal gauges were connected by instrumental leveling so as o refer the observations at each gauge to the same absolute plane.

The five tidal charts presented herewith show graphically the state of the tide, the actual height of the water being referred to the same plane, at the same moment, at each of the four locations. The charts show these tidal heights for January 30, 31, February 9, 10, 13, 14. They are selected to show graphically different states and relations of the tides at these points. The chart of February 13 and 14 which exhibits the observations for a full period of 24 hours, may be especially referred to as showing clearly the relations of the tidal flow affecting the problem under consideration.

For reasons to be stated presently the tidal heights at gauge No. 1, in Flushing bay, and at gauge No. 3, at the head of Newtown creek, will be compared. It will be noted that the horizontal lines on the chart indicate the height above an assumed plane; the space between each of the heavy lines indicating one foot, this space being equally divided into five parts by each of the finer horizontal lines. The vertical lines represent time, the space between each of the heavy vertical lines indicating one hour, similarly divided into five equal parts by the finer vertical lines. The irregular lines show the tidal flow, each at the gauge indicated by the corresponding number on the chart.

Referring to numbers 1 and 3 it is seen that at 7.15 a. m. of February 13 the surface of the water at Flushing bay

(No. 1), and the surface of the water at the head of Newtown creek (No. 3) are exactly at the same height, 13.9 above the assumed zero plane. Between 7.15 and 8 a. m. both are rising, but that at Flushing bay (No. 1), is rising more rapidly, and at 8 a. m. No. 3 is at 14.0, while No. 1 is at 14.5, the latter being 0.5 (or six inches) higher than No. 3. If there existed a conduit or pipe between these two points the water would be flowing from Flushing bay to Newtown creek, with a velocity due to this actual head, or difference of level of six inches.

From 8 to 9 a. m. the water in Flushing bay is still rising, while that in Newtown creek remains nearly level, just beginning, however, to fall; at 9 the heights are 13.8 and 15.0, showing a head at that hour of 1.2 feet, which would give an increased flow in the conduit; at 10 a. m. the water in Flushing bay has begun to ebb, but that in Newtown creek has rapidly fallen, the head becoming at that hour 2.6 feet; at 11 a. m. both are on the ebb, but the head increased to 2.8 feet, giving a largely increased flow into Newtown creek. The water in Flushing bay continues higher than that in Newtown creek until 1.30 p. m., when the later having arrived at its lowest stage, the former has fallen to the same level. The table given below shows the relations of the water at the two points throughout the twenty-four hours.

From 1.30 p. m. to 7.30 p. m. of February 13, the water on Flushing bay (gauge 1) is lower than in Newtown creek. If the conduit were still open there would, during this period, be a flow in the other direction, namely, from Newtown creek to Flushing bay; but in the practical operation of this conduit for the purposes now under consideration it would probably be better to prevent the flow in this direction. This could be accomplished by self-acting gates at the Newtown creek end of the conduit, which would close whenever the flow should tend towards Flushing creek. This would prevent the entrance of foul water from Newtown creek into the conduit or its passage to Flushing bay.

Returning to the diagram: At 7.30 p. m. of February 13th the two surfaces are at the same level; at 8 p. m. Flushing

feet higher than Newtown creek, the pure water is again
nto the creek; the head increases until at 10 p. m. it
3.4 feet, and the water continues to flow to the creek
1.45 a. m. of February 14, the two surfaces again
evel with each other.

llowing table gives the absolute height at the times
of the water at the gauge No. 1 in Flushing bay and
Newtown creek, and also the difference of level or head
me times. The table covers the whole periods of this
when there would be a flow from the bay to Newtown

bservations, Flushing bay, gauge No. 1, and Newtown
uge No. 3, February 13th and 14th, 1893:

| HOUR. | Gauge No. 1. | Gauge. No. 3 | Head. |
|---|---|---|---|
| 13, 7.15 a. m..... | 13.9 | 13.9 | 0.0 |
| 13, 8 a. m..... | 14.5 | 14.0 | 0.5 |
| 13, 9 a. m..... | 15.0 | 13.8 | 1.2 |
| 13, 10 a. m..... | 14.8 | 12.2 | 2.6 |
| 13, 11 a. m..... | 14.4 | 11.6 | 2.8 |
| 13, 12 m..... | 13.0 | 11.2 | 1.8 |
| 13, 1 p. m..... | 11.4 | 10.9 | 0.5 |
| 13, 1.30 p. m..... | 10.6 | 10.6 | 0.0 |
| 13, 7.30 p. m..... | 13.5 | 13.5 | 0.0 |
| 13, 8 p. m..... | 14.2 | 13.5 | 0.7 |
| 13, 9 p. m..... | 15.1 | 13.2 | 1.9 |
| 13, 10 p. m..... | 15.5 | 12.1 | 3.4 |
| 13, 11 p. m..... | 14.6 | 11.5 | 3.1 |
| 13, 12 p. m..... | 12.6 | 10.6 | 2.0 |
| 14, 1 a. m..... | 10.7 | 9.6 | 1.1 |
| 14, 1.45 a. m..... | 9.7 | 9.7 | 0.0 |

tations have been made of the amount of water which
nder these heads, flow during these periods from Flush-
to Newtown creek, through conduits of different size.
tions have also been made, based upon the observa-
de upon other dates, some of which are shown on the

diagrams presented herewith, and the approximate cost of construction of such conduits has been estimated. These will be directly given. Attention is first called to some other points indicated in these diagrams.

It will be seen that the flow from Flushing bay to Newtown creek will occur substantially while the tide in Newtown creek is ebbing. This will aid materially in the scouring action of the water running out of the creek into the East river, if enough water is passed through the conduit to be of any service.

It will also be seen that the tide rises higher in Flushing creek than in the bay. Were it certain that sufficient water could always be depended upon from the creek to maintain the desired flow through the conduit, its inlet might well be placed at the creek to secure the greater head that exists, as compared with the bay. But the channel of the creek is tortuous and through marsh; a rapid current from it into the conduit might carry sediment, a considerable amount of dredging would be certainly required at the outlet and might be required from time to time, and therefore I deem it more safe to base the estimates, both of flow and cost, upon a conduit leading from the bay. It is possible that some arrangement of a dam for holding back high water in the creek to maintain head in the conduit might be feasible, but the consideration of such a project involves an examination and study of so many points, including riparian rights on the creek, as to be impracticable in this preliminary report.

All the observations show that the elevations of tide at high water are considerably greater in Flushing bay than at Newtown creek, and this fact is in accordance with well-known characteristics of the tidal flow in bays extending from the ocean or from arms of the sea like Long Island sound and the East river.

The two maps accompanying this report which show the surveys made by Mr. Hyatt for the Messrs. Cooper give the location of lines between Newtown creek and Flushing creek and Flushing bay, with a profile of each of those lines. Based upon the topography thus indicated, it is estimated that a conduit of

masonry of eight feet internal diameter can be laid on a favorable line between Flushing bay and Newtown creek and at a sufficient depth to carry the water to Newtown creek whenever gravity will cause it to flow in that direction, for the sum of about $500,000.

Based upon the tidal observations, it is estimated that through a conduit of eight feet diameter there would flow an average of somewhat more than 2,500,000 cubic feet of water, every 24 hours from Flushing bay to Newtown creek. The estimated volume of water in Newtown creek, from the East river to the head of the creek, is about 65,000,000 cubic feet.

A conduit of twelve feet internal diameter upon the same line will cost about $750,000. This conduit of twelve feet internal diameter will convey from Flushing bay to Newtown creek an average of about 7,750,000 cubic feet of water each 24 hours.

It is my opinion that the increased volume of water which will be carried by the larger conduit will warrant the additional expense and that the introduction of that amount of water at the head of Newtown creek will insure an amelioration of its present foul condition to an extent that will decidedly repay the expenditure estimated. It is possible that a survey undertaken to ascertain the best location for such a conduit might result in determining a more economic construction. Such a survey can not be undertaken with the expectation of favorable results until later in the spring, as the ground has been covered with snow and ice, rendering it impossible to make such a survey. The survey of Mr. Hyatt was made with reference, as has been stated, to the construction of a ship canal. There is shown upon this map by a broken red line a location which superficial examination of the ground suggests as a possible location for the conduit. This broken red line has been added at this office and is not a part of Mr. Hyatt's map.

Another reason for suggesting the twelve-foot conduit rather than the eight foot is that it would probably be desirable to so arrange its outlet as to discharge a portion of the pure water from Flushing bay into the Maspeth creek branch of Newtown

creek and another portion into the Bushwick branch, thus giving each of these two branches a reasonable amount of pure water, and the twelve-foot conduit would make that arrangement practicable.

I have not yet been able to secure tidal observations at Jamaica bay with a connection of their elevations with the elevations of the water at Newtown creek. The results of an examination of the tables of tidal flow prepared by the United States Coast Survey shows a probability that the time of the tides at Jamaica bay and Newtown creek are not as favorable to a passage of pure water into the creek as is the case with the Flushing creek conduit, and it is quite certain that the cost of a conduit from Jamaica bay would be greater than from Flushing creek, as it would certainly have to be, to a considerable extent, in close tunnel, the depth being too great for open cut, as has been remarked above.

An estimate has been given above of the probable cost of a canal between Flushing bay and Newtown creek, with 15 feet depth of water and 150 feet in width. Such a canal, if provided with gates arranged so as to permit a flow only from Flushing bay to Newtown creek and not in the reverse direction could pass a very large amount of water every 24 hours from the bay to the creek. This amount would be much greater than could be passed by gravity through the suggested conduit, and the canal, if operated with careful attention to the requirement of purification of Newtown creek, would assure such purification. But it must be remembered that the uses of such a canal would be largely commercial and that the convenience of vessels passing through it would be doubtless considered in its practical operation. The current in such a canal, if left free to flow during the times of great difference of level at its ends, would be quite rapid. Gates at each end of the canal would probably be required, and their use in connection with the passage of vessels would reduce materially the amount of flow from bay to creek.

The transmission of the very large amount of water which could pass through such a canal might have important results upon the flow of the tide in Newtown creek.

The estimate of one and three-quarter million dollars, given above as the probable cost of such a canal, should be increased if very rapid flow is to be permitted, as special provision would be required for the proper protection and maintenance of the slopes.

Such a canal could be operated, if under proper supervision as to its sanitary uses, so as to accommodate commerce and also pass a much greater amount of pure water from the bay to the creek than could be accomplished through a conduit of reasonable first cost without pumping machinery. The advisability of expending the additional amount of at least $1,000,000 above the cost of a conduit must be determined by considerations of the commercial value of such a waterway, with which considerations this report does not deal.

The drawings submitted with this report are: No. 1—a map of Newtown creek and Flushing bay and adjacent country; Nos. 2, 3, 4, 5 and 6—diagrams representing graphically the tidal flow at the four tide gauges in the locations indicated upon the map; Nos. 7 and 8—maps of the surveys of lines between Newtown creek and Flushing bay and Newtown creek and Flushing creek.

Respectfully submitted.

JOHN BOGART,
*Consulting Engineer State Board of Health.*

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54 WEST THIRTY-SIXTH STREET,
NEW YORK CITY, *February* 7, 1893.

Hon. THOMAS NEWBOLD, *President:*

Sir.—The special committee appointed by this Board to investigate and report to you regarding the nuisance-producing businesses situated on Newtown creek, and recommend measures of relief from the same, beg leave to announce that at the present e all of these offensive industries have capitulated and ceased iness, or made satisfactory stipulations with the Brooklyn rd of health to discontinue business before the return of m weather will cause them to become public nuisances again.

The affairs of the firm of Cooper & Hewitt alone remain as when the investigation began. But, inasmuch, as this is attacked on account of its illegal methods, rather tha causing unlawful odors, and has secured a permanent injun restraining the board of health of Brooklyn from interfe with the conduct of its business, on the basis that it caus public nuisance, we can see no occasion to continue this in gation further, and, therefore, beg leave to submit this, our report for your consideration, and ask to be discharged further duty in this matter.

Respectfully submitted.

JOSEPH D. BRYA

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ALBANY, *March* 15, 18

To Hon. ROSWELL P. FLOWER, *Governor of the State of New Y*

Sir.—Under order from your Excellency, dated Marc 1892, and in accordance with the provisions of section 8 of ter 322 of 1880 and its amendments, the State Board of H began an investigation of alleged nuisances from stench i tries situated on Newtown creek, in the counties of Kings Queens. Chapter 646 of the Laws of 1892, what is know the "Shield's bill," having become law, the board reported, sixth, it had suspended further work on the creek, the referred to putting the remedy for all nuisances from st producing industries under local authorities and asking ther instructions from your Excellency.

September 7, 1892, your Excellency gave verbal orders fo Board to resume its investigations, and it respectfully su the following report of its proceeding and such suggestion recommendations as appear to it pertinent.

At a meeting of the Board held in New York, Septemb 1892, a committee was appointed to examine all the m against which complaint had been made and to take testi concerning the same of all those who desired to come bef Due notice of the first meeting of the committee was giv the public press and by letter to all the manufacturers

ices were along the creek as well as those persons who had itten the State Board making complaint or asking to be ard.

The committee met in the common council chamber, city ll, Long Island City, the 5th of October, 1892, but no one pearing in complaint and it being stated by the health com- ssioner of Brooklyn that he had many witnesses he wished to oduce, the hearing was adjourned until the nineteenth, when nsiderable testimony was taken.

The committee further adjourned until the tenth of November, which session some rebuttal testimony was taken and an djournment had, subject to the call of the chair. Attention respectfully asked to the testimony taken at the different sit- ngs of the committee, herewith attached and marked "Appen- x A."

On Tuesday, November 15, the committee visited the rious factories under investigation, noted the condition of the eek and satisfied themselves that the suggestion and recom- endation contained in this report would remedy a serious con- ition and prevent it being a nuisance of menace to health.

Attention is further requested to the reports of Mr. John ogart, C. E., and Mr. Arthur Hollick, sanitary inspector, and the correspondence in the case herewith attached.

It appears from the reports submitted herewith that most, if ot all, the manufacturing nuisances complained of have been, the action of the local board of health of Brooklyn, under e provisions of chapter 646 of 1892, abated by closing the tablishments. This action on the part of the local authorities ecessarily relieves this Board of making any recommendations oncerning the industries under investigation, and none are erefore made. Should future proceedings show, from any ause whatever, the agreements made between the manufac- rers and the Brooklyn health commissioner to be ineffectual, he Board could then formulate suggestions for preventing tench nuisances, as experience has proved of benefit, and sub- it the same to your Excellency for final approval and order.

It is proved, however, and referred to in parts of the evidence ken, that the creek is a cause of a stench nuisance. Examina-

tion shows considerable sewage from various sources to be discharged into the creek and floatage experiments that tidal action tends to prevent its entire escape, thus causing deposit of foul matter requiring dredging to maintain the channel.

This is a nuisance requiring attention. While it is stated the taking out of the creek of the sewage now discharged by the city of Brooklyn is contemplated, and while this, should it be done, will undoubtedly afford some relief, it will not remedy the evil, the outflow of the creek water not being strong enough to cleanse the bottom or prevent further accumulation from the other sources of pollution.

The report of Mr. Bogart gives in the clearest manner a practical way in which this could be remedied, and especial attention is asked thereto. The expense of constructing such a conduit as he suggests is not excessive, when the gain to the public health and comfort is considered, and the Board heartily commends the report and believes the work should be undertaken. It is suggested as a relief to the nuisance caused by the polluted waters and bottom of Newtown creek, a nuisance which will steadily increase. While the Board makes the suggestion it recognizes the fact that under the provisions of law under which your Excellency ordered this examination by the State Board of Health, such a suggestion can not be made into an order, unless it may be so construed that an order could be made requiring Brooklyn and Long Island City, each being contributors and maintainers of the pollution of the creek, to abate the nuisance caused by constructing such a conduit.

The State Board would recommend measures be taken such as your Excellency deems best, looking to the speedy construction of a conduit as advised by Mr. Bogart, it considering the present defiled condition of Newtown creek a nuisance of menace and danger to health.

Very respectfully, your Excellency's obedient servants.

THOMAS NEWBOLD,
*President.*

LEWIS BALCH, M. D.,
*Secretary.*

# Report on Manner of Discharge of Sewer from Iselin Residence Park, New Rochelle.

(1.) Letter from Governor.
(2.) Petition.
(3.) Report of committee.
(4.) Report to Governor.

STATE OF NEW YORK:

EXECUTIVE CHAMBER,
ALBANY, *July* 18, 1893.

*State Board of Health, Albany, N. Y.:*

Gentlemen.—I am directed by Governor Flower to send you the inclosed communications from citizens of New Rochelle, and to request you to make an investigation of the nuisance alleged to exist, and to report to him such recommendation as may seem desirable in the premises.

Very respectfully yours.

T. S. WILLIAMS,
*Private Secretary.*

NEW ROCHELLE, *July* 17, 1893.

To His Excellency, ROSWELL P. FLOWER, *Governor of the State of New York:*

Sir.—The undersigned residents of New Rochelle, New York, respectfully beg to present to your attention the unwholesome condition of a certain portion of this village, situated at the foot of Drake avenue, consisting of marshy land, having only a very narrow and indirect communication with the waters of

Long Island sound. Into this locality, which is about one acre in extent, and is bare at low tide, empties a sewer pipe about eighteen inches in diameter, which conveys storm water from an adjacent territory known as Residence Park, and sewage from the houses therein situated, and from some other houses outside of it; in all being about 150 in number. This pipe has been laid five or six years, and its outflow has been recognized and pronounced by the local board of health to be a pernicious and dangerous nuisance, and orders were issued by said board of health to Mr. Adrian Iselin, Jr., two years ago, for the abatement of the nuisance. Residence Park was laid out and the roads and sewers constructed by Mr. Adrian Iselin, Jr., and he was deemed responsible by the board of health for the nuisance. A suit is now pending by which the board of health seeks to compel him to comply with the order to abate the nuisance. A few months ago the roads of Residence Park were accepted by the village trustees and taken under their care; meanwhile no steps have been taken to correct the nuisance other than the suit already mentioned. The village of New Rochelle is at the present time being provided with sewers under the direction of a commission, who have constructed part of the system, and are arranging to construct sewers for the district of the village which includes Residence Park. By an amendment of the act which gave them their authority, the Legislature last winter "authorized and directed them to add to the general plans of the uncompleted sewers and drains aforesaid, plans for building a proper outlet or disposal works or both, as in their judgment may be necessary, to what is known as the Residence Park sewer in said village of New Rochelle. And the said commissioners for the purposes of this act shall have the power to construct a new sewer through Residence Park, or to take any steps that they may deem advisable to provide said park with a proper sewer, and to abate the nuisance now existing at the mouth of the present sewer through said park" (chapter 220, Laws of the State of New York, approved March 27, 1893). To carry out the purposes designated the sum of $20,000 was put in their control.

sewer commission are deliberating upon plans whereby,
rse of time, the obligations of this amendment will be
ed with, but they are unwilling to adopt immediate meas-
to abate the nuisance now existing at the mouth of the
sewer through said park."

undersigned who live within the pernicious influence of
isance, which is admitted to be a nuisance even in the
of the above amendment, respectfully represent to your
ncy that the situation demands immediate action, that
some stench pervades the locality under certain condi-
f temperature, and that already during the hot weather
summer this stench has been prevalent. Sickness has
d which is attributed by physicians to this cause. In at
ie instance persons have abandoned their home to escape
smell and its pernicious effects. The nuisance increases
ity every year while the sewage more deeply impregnates
lutes the soil of the marsh. The undersigned beg your
ncy to lay this matter before the State Board of Health
structions to investigate it and adopt such measures as
ithout delay, put an end to this nuisance. Efforts have
ade for two years, without avail, to accomplish this
and we appeal to your authority to set in motion the
es which shall promptly relieve us of a distressing and
ous pest.

ocal board of health of New Rochelle awaits the issue of
t law, and also regards the sewer commission as empow-
take suitable action. The sewer commission deliberates
measures which shall bring about a permanent solution
question; meanwhile a vile and loathsome odor arises
e polluted soil when the hot sun causes fermentation,
s carried by the wind into neighboring houses, and has
iown to reach the distance of a quarter of a mile. A
can be found by constructing low dams to cover the
with water and at the same time convey the sewage
the dam by extending the pipe. This will cover the mud
eve the neighborhood from the offensive condition, while
ent works are being devised and constructed.

The undersigned respectfully represent that the need is ur
that comfort is sacrificed, that health and life are imper
and that they are unable to get relief from any local author
They, therefore, beg your Excellency to put in operation
emptory measures through the agency of the State Boar
Health.

We remain very respectfully yours.

Henry D. Noyes, M. D., 168 Pelham road.

Henry L. Nelson, Pelham road.

G. M. Weld, 187 Pelham road.

Chas. H. Roosevelt, 115 Pelham road.

Wm. H. Jackson, 115 Pelham street.

Thaddeus Davis, 115 Pelham road.

John M. Brewster, 250 Woodlawn avenue.

H. LeBarbier, No. 203 Pelham road.

B. D. Wright.

Annie Jay Bolton, 220 Pelham road.

A. Bolton, 220 Pelham road.

Charles F. Canedy, 128 Pelham road.

Thomas Mackellar, 231 Pelham road.

Mrs. M. Brady, 277 Drake avenue.

Wm. H. Mead, 228 Pelham road.

Mrs. C. Failes, 288 Drake avenue.

Mr. G. Oake, 297 Drake avenue.

A. T. Townsend, 6 Neptune place.

A. M. Sherward, 14 Neptune place.

J. M. Woodberry, 18 Neptune place.

D. C. Sypher, 270 Pelham road.

C. H. de Luzes, 195 Drake avenue.

Samuel K. Browne, 77 Leland avenue.

H. S. Clarke, 42 Elm street.

Geo. P. Brown, 77 Leland avenue.

SCHENECTADY, *August* 11, 1893.

HON. FLORENCE O. DONOHUE, *President State Board of Health:*

Sir.—The committee appointed by you to visit and report upon the nuisance complained of by certain citizens of New Rochelle beg leave to report:

We met at New Rochelle. Mr. Morgan, the clerk of the local board of health, who accompanied us to the place complained of.

We found a sewer used by the inhabitants of "Iselin Park" opening into a flat-bottomed drain of some fifty feet in length. This drain is covered with flat heavy stones, with open joints. The lower and outer end was at the water level, but at high tide it is covered. There was quite a flow from this drain of soapy water with foecal matter which ran into a pool, where it deposited filth and slime. The odor was very offensive. It does not seem that this sewage can, under the present circumstances, make its way effectively to tide water and pass out into the sound, for directly in front of the opening of the drain there are several small hummocks covered with sedges which, even at high tide, impede the flow, strain out and retain the putrescent matters.

The only way to remedy this is to carry the sewage out so far that is shall have an unimpeded flow into tide water through an opening so far below the water level that it will not be uncovered at low tide.

We also met the local health officer and some members of the board of sewer commissioners. There was no question as to the gravity of the situation, and we were convinced that all possible attempts were being made to abate it.

Arrangements are being made to carry this sewage beyond its present opening into the deep water.

The health officer stated that several of the signers of the complaint were using the sewer, and that it is their only way of disposal of it.

Respectfully submitted.

MAURICE PERKINS.

W. E. MILBANK.

CYRUS EDSON.

ALBANY, *September* 14, 1893.

To Hon. ROSWELL P. FLOWER, *Governor of the State of New York:*

Sir.—In accordance with your instructions of July 18, 1893, that this Board examine into the complaint of residents of New Rochelle, Westchester county, concerning a nuisance caused by the manner of discharge of the sewer from the Iselin Residence Park, a part of the village of New Rochelle, the following report is respectfully submitted.

At a meeting of the Board, held July 27, 1893, a committee was appointed to examine into the nuisance and report to the Board at its next meeting. The committee visited New Rochelle and conferred with the local health authorities and also with some of the complainants, and submitted its report to the Board at the meeting held August 25.

As it appears from the report of the committee that active measures are being taken by the local authorities to properly abate the nuisance, this Board, while asking attention to the committee's report herewith appended, respectfully states it has no recommendations to make in the matter for your Excellency's consideration.

Very respectfully, your obedient servants.

F. O. DONOHUE,
*President.*

LEWIS BALCH,
*Secretary and Executive Officer.*

# FOOD AND DRUGS.

# REPORT

OF

## WILLIS G. TUCKER, M. D., PH. D.,

**Director State Board of Health Laboratory.**

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LEWIS BALCH, M. D., *Secretary of the State Board of Health, Albany, N. Y.:*

**Sir.**—The collection and analysis of samples, chiefly of official (pharmacopoeial) drugs, has been continued during the past year. Fifty water analyses have been made and a large amount of the chemical work done. During the year 2,637 samples were collected from thirty-seven places widely scattered over the State, and 2,434 samples were examined and reported upon, as heretofore, from month to month. Since July 1, 1891, when all the chemical work of the Board was placed in my hands, 7,035 samples of foods and drugs have been collected and 6,832 examined and reported upon, being an average of 227 per month. The average cost of these samples, including the traveling expenses of the collector, has been a fraction over nineteen cents. In addition to this work, 155 samples of water have been analyzed and various special investigations made and miscellaneous work done by order of the Board.

Accompanying the monthly reports, separate reports have been transmitted on each sample which, on examination, has been found to be of inferior quality or otherwise to vary materially from established standards, and these reports have stated the record number and precise name of each article as called for by the collector in writing; the name and place of business of dealer from whom purchased; date of purchase; amount called

for; price paid for same, and name of collector, and the quality of the article as determined by the examination made. The same standards have been employed that have heretofore been used, but as the new pharmacopoeia (revision of 1890) went into effect January 1, 1894, and various changes have been made therein, the standards employed in passing upon pharmacopoeial articles will necessarily be changed in some respects during the present year. Concerning these standards I quote from a preceding report:

"Samples are classed as of 'good quality' when they fulfill the requirements of the United States Pharmacopoeia or fall below the same only in some trifling and unimportant respect; of 'fair quality' if, while not fully up to the pharmacopeial standard, they are evidently neither intentionally adulterated nor decidedly below such standard, and of 'inferior quality' if clearly adulterated or falsified, lacking in any important constituent, deficient in strength from improper manufacture, partial or complete decomposition or other causes, or containing an undue amount of impurity. In some cases, through ignorance or intent, a wrong article has been sold or some inferior article of a nature similar to that called for has been substituted, and such samples have been classed under the head 'not as called for.' Articles like the diluted acids, possessing excessive strength, have been classed under that head. The reports have also stated the respects in which samples not of good quantity have been found to be deficient or inferior, and have given such other particulars as have been deemed necessary in special cases."

Not having been published elsewhere, these reports are now collected and embodied in this annual report.

In the selection of samples for examination only such articles have, in the main, been collected as are known to be often of inferior strength or quality, or liable to deterioration through improper preparation or careless keeping, and no attempt has been made to collect a large variety of drugs, since many pharmaceutical preparations and medicinal substances are seldom or never adulterated or of inferior quality. Notices have promptly been sent, from the central office, to all dealers whose

mples have been found to be of unsatisfactory quality, warn-
g them to desist from such sales, and while these notifications
ave had a salutary effect in correcting many errors and abuses,
t is proposed in the future to deal more summarily with those
hose samples have, on several occasions, been found of inferior
uality. In the tables accompanying this report will be found
he name and place of business of all dealers from whom col-
ections have been made and the result of the examination of
he samples purchased. All articles have been called for by
ritten order, giving the precise name of each article, and, as
rivial or common trade names have never been employed, there
an be no valid excuse for errors in filling these orders. The
llowing table gives a list of the articles examined, number of
ach and places where purchased:

## TABLE OF SAMPLES, ETC.

| ARTICLES. | PLACE WHERE PURCHASED. | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Albany. | Amsterdam. | Auburn. | Binghamton. | Canandaigua. | Chatham. | Clyde. | Corning. | Cortland. | Elmira. | Fishkill. | Geneva. | Gloversville. | Hornellsville. | Hudson. | Ithaca. | Johnstown. | Lyons. | Matteawan. |
| Acetic acid, diluted | ..... | 9 | 8 | 11 | 3 | 2 | 4 | 3 | 5 | 8 | 1 | 4 | 4 | 6 | 5 | 6 | 5 | 3 | 2 |
| Ammonia, water of | 22 | 9 | 10 | 14 | 4 | 3 | 4 | 5 | 7 | 13 | 2 | 5 | 7 | 8 | 7 | 6 | 5 | 4 | 3 |
| Capsicum | 17 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Creosote | 26 | 10 | 10 | ..... | 4 | 3 | 4 | ..... | ..... | ..... | 2 | 5 | ..... | ..... | 6 | ..... | ..... | 4 | 1 |
| Dandelion | 12 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ether, compound spirit of | ..... | 6 | 8 | 12 | 1 | 1 | 3 | 5 | 7 | 10 | 2 | 5 | 1 | 7 | 2 | 8 | 5 | 3 | 2 |
| Ether, stronger | ..... | 8 | 6 | 9 | 4 | 2 | 1 | 2 | 6 | 8 | 2 | 3 | 5 | 7 | 6 | 5 | 3 | 1 | ..... |
| Ginger | 15 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Hydrochloric acid, diluted | 25 | 5 | 8 | 13 | 3 | 3 | 4 | 5 | 7 | 11 | 3 | 5 | 4 | 7 | 7 | 8 | 5 | 4 | 1 |
| Iodine, compound solution of | ..... | 3 | 7 | ..... | 3 | 1 | 3 | ..... | ..... | ..... | ..... | 5 | ..... | ..... | 4 | ..... | ..... | 2 | ..... |
| Iodine, tincture of | 27 | 10 | 10 | ..... | 4 | 3 | 4 | ..... | ..... | ..... | 3 | 5 | ..... | ..... | 7 | ..... | ..... | 4 | 3 |
| Ipecac | 15 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Iron, tincture of chloride of | 6 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Magnesia | ..... | 1 | 4 | ..... | 2 | 3 | 4 | ..... | ..... | ..... | 2 | 2 | ..... | ..... | 6 | ..... | ..... | 4 | 3 |
| Rhubarb | 17 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Sulphuric acid, aromatic | 25 | 10 | 9 | 12 | 4 | 2 | 3 | 6 | 7 | 13 | 3 | 5 | 5 | 7 | 6 | 8 | 5 | 4 | 1 |
| Sulphuric acid, diluted | ..... | 9 | 10 | 12 | 3 | 2 | 4 | 5 | 7 | 11 | 3 | 5 | 4 | 7 | 7 | 8 | 4 | 4 | 1 |
| Totals | 207 | 83 | 90 | 83 | 35 | 25 | 38 | 31 | 46 | 74 | 23 | 49 | 30 | 49 | 63 | 49 | 32 | 37 | 17 |

| ARTICLES. | PLACE WHERE PURCHASED. | | | | | | | | | | | | | | | | | | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mount Vernon. | Newark. | Oneida. | Owego. | Palmyra. | Peekskill. | Poughkeepsie. | Rochester. | Rome. | Schenectady. | Seneca Falls. | Sing Sing. | Syracuse. | Utica. | Waterloo. | Waverly. | White Plains. | Yonkers. | |
| Acetic acid, diluted | 6 | 1 | 1 | 3 | 3 | 6 | 10 | 43 | 3 | 7 | 3 | 3 | 24 | 12 | 2 | 4 | 1 | 10 | 231 |
| Ammonia, water of | 8 | 2 | 4 | 5 | 3 | 5 | 12 | 44 | 4 | 8 | 3 | 3 | 27 | 14 | 2 | 4 | 1 | 10 | 297 |
| Capsicum | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 17 |
| Creosote | 6 | 2 | 5 | ..... | 3 | 5 | 12 | 41 | 4 | 8 | 3 | 2 | 28 | 15 | 2 | ..... | 2 | 9 | 223 |
| Dandelion | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 13 |
| Ether, compound spirit of | 2 | ..... | 4 | 4 | ..... | 2 | 8 | 30 | 3 | 8 | 3 | 2 | 26 | 14 | 2 | 3 | ..... | 7 | 206 |
| Ether, stronger | ..... | 1 | 2 | 2 | 1 | 1 | 3 | 11 | 2 | 5 | 2 | 1 | 20 | 9 | 1 | 4 | ..... | 1 | 144 |
| Ginger | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 15 |
| Hydrochloric acid, diluted | 7 | 1 | 2 | 5 | 3 | 5 | 11 | 41 | 2 | 4 | 2 | 3 | ..... | 1 | 1 | 4 | 2 | 10 | 233 |
| Iodine, compound solution of | 5 | ..... | ..... | ..... | 1 | 1 | 6 | 26 | 4 | 4 | 2 | 1 | 13 | 12 | 1 | ..... | ..... | 5 | 109 |
| Iodine, tincture of | 8 | 2 | 5 | ..... | 3 | 6 | 13 | 44 | 4 | 8 | 3 | 3 | 29 | 15 | 2 | ..... | 2 | 10 | 237 |
| Ipecac | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 15 |
| Iron, tincture of chloride of | ..... | ..... | 2 | ..... | ..... | ..... | ..... | ..... | 2 | 2 | ..... | ..... | ..... | 6 | ..... | ..... | ..... | ..... | 21 |
| Magnesia | 5 | 2 | ..... | ..... | 1 | 6 | 12 | 34 | ..... | 1 | 2 | 3 | ..... | 3 | 1 | ..... | 2 | 8 | 111 |
| Rhubarb | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 17 |
| Sulphuric acid, aromatic | 8 | 2 | 5 | 4 | 3 | 6 | 9 | 43 | 4 | 8 | 3 | 3 | 26 | 13 | 2 | 4 | 1 | 10 | 289 |
| Sulphuric acid, diluted | 6 | 1 | 4 | 5 | 1 | 5 | 13 | 41 | 4 | 8 | 3 | 3 | 28 | 13 | 2 | 4 | 2 | 10 | 259 |
| Totals | 61 | 14 | 34 | 28 | 22 | 48 | 109 | 398 | 36 | 71 | 29 | 27 | 221 | 127 | 18 | 27 | 13 | 90 | 2,434 |

## METHODS OF ANALYSIS.

None but officinal (pharmacopoeial) articles having been collected, and the standard of quality prescribed by the Pharmacopoeia being the legal standard to which articles included therein must conform, the pharmacopoeial tests and analytical methods have been generally followed. While exhaustive analyses have not often been necessary at least one quantitative determination has been made in most cases. The examination has in each case been sufficient to determine whether the article deviated in any material respect from the standard of quality prescribed in the pharmacopoeia and more than this has not been deemed necessary.

### Summary of Results.

Of the 2,434 samples of drugs examined there were classed as of

| | | |
|---|---|---|
| Good quality | 1,018 | or 41.9 per cent. |
| Fair quality | 446 | or 18.4 per cent. |
| Inferior quality | 699 | or 28.7 per cent. |
| Not as called for | 131 | or 5.3 per cent. |
| Excessive strength | 140 | or 5.7 per cent. |

As stated in previous reports the above percentages "by no means represent the proportions of good, bad or indifferent drugs on the market and on sale at the stores, since only articles which were considered likely to be adulterated or known to be frequently of inferior quality were collected. Had samples of drugs and pharmaceutical preparations been selected at random the proportion of good and pure articles would have been very much larger." The samples wrongly sold and reported above as "not as called for" consisted chiefly of creosote for which crude carbolic acid is very commony sold, and the articles reported as of "excessive strength" were mainly diluted acids which were twenty-five per cent or upwards too strong, in some cases the concentrated acids being dispensed when the diluted

ere called for, and water of ammonia for which the stronger mmonia was frequently dispensed.

The following were the articles examined:

**Diluted Acetic Acid** — (*Acidum Aceticum Dilutum, U. S. P.*)

Two hundred and thirty-one samples examined, of which there were of good quality, sixty-one; fair, fifty-two; inferior, seventy-eight; excessive strength, thirty-four; and not as called for, six. Probably no one article of the pharmacoepia is more often carelessly prepared and of more variable strength than this.

Diluted acetic acid should contain six per cent of absolute acid. Samples containing from 5.5 to 7.5 per cent have been rated as good; 4.5 to 5.4 per cent, fair; under 4.5 per cent, inferior; and over 7.5 per cent, as of excessive strength. The samples examined varied from 1.20 to 35.00 per cent, and many of them had evidently been prepared without any regard to accuracy, and in some cases the practically undiluted acid was sold. While it is not expected that such preparations will be made with scientific precision, gross carelessness in their preparation is entirely inexcusable. Diluted acetic acid is employed in the preparation of "spirit of mindererus," and if it is below or above the proper strength this solution will be either too weak or too strong, either of which conditions is desirable. The following table gives a description of each of the samples:

## Diluted Acetic Acid, U. S. P.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4676 | March 21 | Brown & Dawson | Syracuse | 4.70 | Fair. |
| 4677 | 21 | Dwight & Reed | Syracuse | 7.00 | Good. |
| 4678 | 21 | Fox & Dygert | Syracuse | 3.50 | Inferior. |
| 4679 | 21 | Coogan & Quigley | Syracuse | 10.00 | Excessive strength. |
| 4680 | 21 | Fry & Martin | Syracuse | 3.20 | Inferior. |
| 4681 | 21 | P. L. Ryan & Co | Syracuse | 4.50 | Fair. |
| 4682 | 21 | F. C. Joslyn & Co | Syracuse | 3.60 | Inferior. |
| 4683 | 21 | E. B. Covert | Syracuse | 3.70 | Inferior. |
| 4684 | 21 | T. W. Dalton & Co | Syracuse | 3.30 | Inferior. |
| 4685 | 21 | R. E. Smith | Syracuse | 4.50 | Fair. |
| 4686 | 21 | Hanna & Coling | Syracuse | 6.60 | Good. |
| 4687 | 21 | W. B. Bissell | Syracuse | 4.80 | Fair. |
| 4688 | 21 | E L. Gleason | Syracuse | 28.90 | Excessive strength. |
| 4689 | 21 | C. W. Snow & Co | Syracuse | 4.20 | Inferior. |
| 4690 | 21 | O. B. Heyne | Syracuse | ..... | Good. |
| 4691 | 21 | Wm. Muench | Syracuse | 4.40 | Inferior. |

| | | | | | |
|---|---|---|---|---|---|
| 4698 | 21 | W. D. Tallman | Syracuse | 5.50 | Good. |
| 4699 | 21 | L. D. Korb | Syracuse | 5.50 | Good. |
| 4700 | 22 | Brown & Drake | Oneida | 5.30 | Fair. |
| 4701 | 23 | F. J. Hager & Co | Rome | 15.20 | Excessive strength. |
| 4702 | 23 | J. G. Bissell & Co | Rome | 6.30 | *Good.* |
| 4703 | 23 | Broughton & Graves | Rome | 12.50 | Excessive strength. |
| 4704 | 24 | F. T. Ray & Co | Utica | 3.00 | Inferior. |
| 4705 | 24 | J. B. McMillan | Utica | 3.20 | Inferior. |
| 4706 | 24 | J. H. Sheehan & Co | Utica | 5.00 | Fair. |
| 4707 | 24 | Howarth & Ballard | Utica | 28.90 | Error in sale. (Labeled "Acetic Acid.") |
| 4708 | 24 | J. W. Cone | Utica | 6.40 | Good. |
| 4709 | 24 | G. L. Hill | Utica | 37.60 | Error in sale. (Labeled "Acetic Acid, U. S. P.") |
| 4710 | 24 | Wm. Blaikie | Utica | 6.00 | Good. |
| 4711 | 24 | Luce & Plumb | Utica | 4.00 | Inferior. |
| 4712 | 24 | E. E. Jones | Utica | 4.70 | Fair. |
| 4713 | 24 | Wm. Howarth | Utica | 4.10 | Inferior. |
| 4714 | 24 | J. B. Williams | Utica | 6.10 | Good. |
| 4715 | 24 | H. K. Preston | Utica | 6.30 | Good. |
| 4716 | 25 | J. Donnelly | Amsterdam | 46.60 | Excessive strength. |
| 4717 | 25 | G. H. Ingraham | Amsterdam | 5.40 | Fair. |
| 4718 | 25 | Bradford & Dickinson | Amsterdam | 2.80 | Inferior. |
| 4719 | 25 | E. W. Clark | Amsterdam | 7.40 | Good. |
| 4720 | 25 | C. W. Stricker | Amsterdam | 10.90 | Excessive strength. |
| 4721 | 25 | Powell & Gilbert | Amsterdam | 12.30 | Excessive strength. |
| 4722 | 25 | U. C. Becker | Amsterdam | 5.80 | Good. |
| 4723 | 25 | J. V. Riggs | Amsterdam | 6.60 | Good. |
| 4724 | 25 | J. A. Barkhuff | Amsterdam | 7.10 | Good. |
| 4725 | 25 | C. H. Horstmann | Schenectady | 3.90 | Inferior. |
| 4726 | 25 | E. Rosa | Schenectady | 5.20 | Fair. |

## Diluted Acetic Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4727 | March 25 | E. T. Veeder & Son | Schenectady | 2.00 | Inferior. |
| 4728 | 25 | J. T. Lyon | Schenectady | 5.70 | Good. |
| 4729 | 25 | Wm. Sautter | Schenectady | 6.50 | Good. |
| 4730 | 25 | G. E. Duryee | Schenectady | 5.80 | Good. |
| 4731 | 25 | H. S. Moore | Schenectady | 6.20 | Good. |
| 5706 | May 17 | F. S. Smith | Auburn | 28.20 | Excessive strength. |
| 5707 | 17 | A. Z. Wright | Auburn | 4.70 | Fair. |
| 5708 | 17 | A. H. Hamilton | Auburn | 6.80 | Good. |
| 5709 | 17 | L. Hunt | Auburn | 7.60 | Excessive strength. |
| 5710 | 17 | Wickes & Fraser | Auburn | 31.90 | Excessive strength. |
| 5711 | 17 | C. H. Sagar Co. | Auburn | 4.20 | Inferior. |
| 5712 | 17 | M. L. Walley & Co | Auburn | 6.10 | Good. |
| 5713 | 17 | H. L. Adams | Auburn | 3.10 | Inferior. |
| 5714 | 17 | T. B. Sharp & Sons | Seneca Falls | 31.00 | (Labeled "Acetic Acid.") Error in sale. |
| 5715 | 17 | Casey & Seaman | Seneca Falls | 3.50 | Inferior. |
| 5716 | 17 | P. Van Kleeck | Seneca Falls | 2.40 | Inferior. |
| 5717 | 17 | Crobaugh & Marsden | Waterloo | 3.60 | Inferior. |
| 5718 | 17 | R. G. Smith & Son | Waterloo | 4.80 | Fair. |
| 5719 | 18 | J. A. Zobrist | Geneva | 28.50 | (Labeled "Acetic Acid.") Error in sale. |

| | | | | | |
|---|---|---|---|---|---|
| 5722 | 18 | A. L. Sweet | Geneva | 19.60 | Excessive strength. |
| 5723 | 18 | E. W. Simmons | Canandaigua | 9.80 | Excessive strength. |
| 5724 | 18 | Pierson & Benham | Canandaigua | 5.80 | Good. |
| 5725 | 18 | A. D. Paul & Co | Canandaigua | 1.50 | Inferior. |
| 5726 | 19 | Curran & Goler | Rochester | 3.80 | Inferior. |
| 5727 | 19 | O. J. & J. A. Bryan | Rochester | 3.50 | Inferior. |
| 5728 | 19 | Paine Drug Co | Rochester | 4.80 | Fair. |
| 5729 | 19 | C. H. Althaus | Rochester | 4.20 | Inferior. |
| 5730 | 19 | Scofield & Barker | Rochester | 1.90 | Inferior. |
| 5731 | 20 | Hyde & Paige | Rochester | 4.99 | Fair. |
| 5732 | 20 | Dake Bros. Drug Co | Rochester | 5.00 | Fair. |
| 5733 | 20 | J. & J. Cooper | Rochester | 3.00 | Inferior. |
| 5734 | 20 | A. R. Mandeville & Co | Rochester | 5.40 | Fair. |
| 5735 | 20 | A. M. Dixon & Co | Rochester | 3.40 | Inferior. |
| 5736 | 20 | E. Fellman | Rochester | 4.30 | Inferior. |
| 5737 | 20 | W. W. Steele | Rochester | 6.00 | Good. |
| 5738 | 20 | Ballard & Hurlburt | Rochester | 4.00 | Inferior. |
| 5739 | 22 | A. B. Chamberlain | Rochester | 3.90 | Inferior. |
| 5740 | 22 | R. J. Strasenburgh | Rochester | 6.90 | Good. |
| 5741 | 22 | J. K. Post & Co | Rochester | 7.10 | Good. |
| 5742 | 22 | E. H. Davis & Co | Rochester | 6.70 | Good. |
| 5743 | 22 | R. W. Chambus & Co | Rochester | 5.80 | Good. |
| 5744 | 22 | N. Barrowclough | Rochester | 4.60 | Fair. |
| 5745 | 22 | J. P. Irish | Rochester | 4.00 | Inferior. |
| 5746 | 22 | G. Hahn | Rochester | 4.20 | Inferior. |
| 5747 | 22 | S. A. Merriam | Rochester | 10.40 | Excessive strength. |
| 5748 | 22 | L. Wyeth | Rochester | 5.80 | Good. |
| 5749 | 22 | L. Klinzing | Rochester | 6.10 | Good. |
| 5750 | 22 | W. H. Gilmore | Rochester | 3.90 | Inferior. |
| 5751 | 22 | G. Mannel | Rochester | 4.90 | Fair. |
| 5752 | 22 | F. Kobbe | Rochester | 6.60 | Good. |

## Diluted Acetic Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5753 | May 22 | G. W. Johns | Rochester | 4.00 | Inferior. |
| 5754 | 22 | C. W. Waegner | Rochester | 7.40 | Good. |
| 5755 | 22 | M. Levin | Rochester | 18.80 | Excessive strength. |
| 5756 | 22 | W. W. Steele | Rochester | 5.80 | Good. |
| 5757 | 23 | J. C. Lung | Rochester | 2.70 | Inferior. |
| 5758 | 23 | C. H. Gauger | Rochester | 6.50 | Good. |
| 5759 | 23 | T. M. Stewart | Rochester | 4.50 | Fair. |
| 5760 | 23 | Craig & Vanderbilt | Rochester | 3.70 | Inferior. |
| 5761 | 23 | C. F. Maid | Rochester | 5.80 | Good. |
| 5762 | 23 | F. W. Jackson & Co. | Rochester | 4.10 | Inferior. |
| 5763 | 23 | A. C. Dempsey | Rochester | 4.20 | Inferior. |
| 5764 | 23 | W. A. Barber | Rochester | 4.00 | Inferior. |
| 5765 | 23 | J. M. Schmitt | Rochester | 4.90 | Fair. |
| 5766 | 23 | F. S. Mason | Rochester | 5.30 | Fair. |
| 5767 | 23 | J. F. Burkard | Rochester | 3.90 | Inferior. |
| 5768 | 23 | F. L. Zimmerman | Rochester | 30.70 | (Labeled "Acetic Acid.") Error in sale. |
| 5769 | 24 | J. W. Rushmore | Palmyra | 3.90 | Inferior. |
| 5770 | 24 | U. R. Gardner | Palmyra | 29 10 | (Labeled "Acetic Acid.") Error in sale. |
| 5771 | 24 | B. H. Davis & Co. | Palmyra | 3.90 | Inferior. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5775 | | 24 | Moore & Moore | Lyons | 4.90 | Fair. |
| 5776 | | 25 | G. W. Koester | Lyons | 5.70 | Good. |
| 5777 | | 25 | C. A. Sherman | Clyde | 5.90 | Good. |
| 5778 | | 25 | Freeman & Martin | Clyde | 4.60 | Fair. |
| 5779 | | 25 | P. Merrill & Son | Clyde | 9.00 | Excessive strength. |
| 6184 | July | 17 | F. H. Terry | Clyde | 12.50 | Excessive strength. |
| 6185 | | 17 | A. J. Fellows | Chatham | 5.60 | Good. |
| 6186 | | 17 | H. J. Baringer, Jr | Chatham | 4.90 | Fair. |
| 6187 | | 17 | C. S. Hanks | Hudson | 3.70 | Inferior. |
| 6188 | | 17 | A. McKinstry & Son | Hudson | 5.20 | Fair. |
| 6189 | | 17 | J. M. Johnson | Hudson | 34.90 | Excessive strength. |
| 6190 | | 17 | B. Stedman | Hudson | 4.80 | Fair. |
| 6191 | | 17 | Wardle & Son | Hudson | 13.20 | Excessive strength. |
| 6192 | | 17 | G. L. Brown | Poughkeepsie | 2.80 | Inferior. |
| 6193 | | 17 | J. V. Humphrey | Poughkeepsie | 2.70 | Inferior. |
| 6194 | | 17 | C. S. Bowne | Poughkeepsie | 5.20 | Fair. |
| 6195 | | 17 | F. R. Bolton | Poughkeepsie | 5.20 | Fair. |
| 6196 | | 17 | Strickler & Schwartz | Poughkeepsie | 7.30 | Good. |
| 6197 | | 17 | Wood & Tittamer | Poughkeepsie | 6.60 | Good. |
| 6198 | | 17 | Barnes Bros. | Poughkeepsie | 5.40 | Fair. |
| 6199 | | 17 | J. Wilkinson | Poughkeepsie | 8.20 | Excessive strength. |
| 6200 | | 17 | T. W. Roberts | Poughkeepsie | 5.70 | Good. |
| 6201 | | 17 | A. A. & J. W. Goetchins | Poughkeepsie | 3.80 | Inferior. |
| 6202 | | 18 | F. Longhran | Fishkill | 3.20 | Inferior. |
| 6203 | | 18 | H. B. Bevier | Matteawan | 6.90 | Good. |
| 6204 | | 18 | B. F. Greene | Matteawan | 9.80 | Excessive strength. |
| 6205 | | 18 | H. Tate | Peekskill | 5.80 | Good. |
| 6206 | | 18 | Griffin & Lent | Peekskill | 4.60 | Fair. |
| 6207 | | 18 | C. E. Gregory | Peekskill | 4.00 | Inferior. |
| 6208 | | 18 | F. A. Grenzebach | Peekskill | 4.80 | Fair. |
| | | | H. H. Lane | Peekskill | 3.80 | Inferior. |

## Diluted Acetic Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6209 | July 18 | T. A. Whitney | Peekskill | 3.40 | Inferior. |
| 6210 | 18 | J. C. Russell | Sing Sing | 4.10 | Inferior. |
| 6211 | 18 | J. A. Hart | Sing Sing | 34.20 | Excessive strength. |
| 6212 | 18 | S. O. Washburne | Sing Sing | 6.70 | Good. |
| 6213 | 19 | J. Stahl, Jr | Yonkers | 5.70 | Good. |
| 6214 | 19 | T. A. Walsh | Yonkers | 3.80 | Inferior. |
| 6215 | 19 | G. B. Wray | Yonkers | 7.00 | Good. |
| 6216 | 19 | E. Spock | Yonkers | 5.40 | Fair. |
| 6217 | 19 | J. W. Wickersham | Yonkers | 30.60 | Excessive strength. |
| 6218 | 19 | E. A. Houston | Yonkers | 4.80 | Fair. |
| 6219 | 19 | J. B. Brouner | Yonkers | 5.50 | Good. |
| 6220 | 19 | J. T. Lennon | Yonkers | 6.20 | Good. |
| 6221 | 19 | L. J. Schlesinger | Yonkers | 6.50 | Good. |
| 6222 | 19 | A. Van Houten | Yonkers | 4.90 | Fair. |
| 6223 | 19 | F. Olivet | Mt. Vernon | 6.70 | Good. |
| 6224 | 19 | C. E. Penfield | Mt. Vernon | 6.70 | Good. |
| 6225 | 19 | E. Laviolette | Mt. Vernon | 6.90 | Good. |
| 6226 | 19 | A. Richter & Co. | Mt. Vernon | 7.00 | Good. |
| 6227 | 19 | A. H. Lins | Mt. Vernon | 10.00 | Excessive strength. |
| 6228 | 19 | F. W. Carlisle | Mt. Vernon | 6.50 | Good. |
| | | F. H. Norvill | White Plains | 7.30 | Good. |

| | | | | | |
|---|---|---|---|---|---|
| 6574 | 18 | *Otis Bros.* | Binghamton | 4.20 | Inferior. |
| 6575 | 18 | P. W. Cunningham | Binghamton | 6.00 | Good. |
| 6576 | 18 | Williams & Anderson | Binghamton | 6.60 | Good. |
| 6577 | 18 | Rourke Bros. | Binghamton | 5.20 | Fair. |
| 6578 | 18 | J. Schnell | Binghamton | 5.00 | Fair. |
| 6579 | 18 | E. J. Bodle & Co. | Binghamton | 4.80 | Fair. |
| 6580 | 19 | E. L. Ostrom | Binghamton | 4.00 | Inferior. |
| 6581 | 19 | C. H. Loveland | Binghamton | 14.70 | Excessive strength. |
| 6582 | 19 | Anderson & Wilcox | Owego | 4.90 | Fair. |
| 6583 | 19 | J. C. Kenyon | Owego | 5.30 | Fair. |
| 6584 | 19 | F. M. Humiston | Owego | 35.00 | Excessive strength. |
| 6585 | 19 | H. H. Hayes & Son | Waverly | 3.50 | Inferior. |
| 6586 | 19 | E. J. Neaves | Waverly | 4.20 | Inferior. |
| 6587 | 19 | J. C. Van Atta | Waverly | 8.80 | Excessive strength. |
| 6588 | 19 | A. Mullock | Waverly | 4.40 | Inferior. |
| 6589 | 20 | C. H. Young | Hornellsville | 3.70 | Inferior. |
| 6590 | 20 | Robertson & Luther | Hornellsville | 6.80 | Good. |
| 6591 | 20 | C. H. Young | Hornellsville | 3.30 | Inferior. |
| 6592 | 20 | G. T. Reed & Co. | Hornellsville | 5.20 | Fair. |
| 6593 | 20 | A. S. Van Winkle | Hornellsville | 1.20 | Inferior. |
| 6594 | 20 | J. W. Bachman | Hornellsville | 6.90 | Good. |
| 6595 | 20 | Heermans & Co. | Corning | 4.80 | Fair. |
| 6596 | 20 | R. W. Terbell | Corning | 3.90 | Inferior. |
| 6597 | 20 | W. J. Marsh | Corning | 26.00 | Excessive strength. |
| 6598 | 20 | C. S. & F. Ingraham | Elmira | 4.40 | Inferior. |
| 6599 | 20 | Wm. R. W. Pound | Elmira | 4.50 | Fair. |
| 6600 | 20 | E. A. Smith | Elmira | 7.90 | Excessive strength. |
| 6601 | 20 | J. Meyer, Jr. | Elmira | 3.90 | Inferior. |
| 6602 | 20 | Gerity Bros. | Elmira | 4.20 | Inferior. |
| 6603 | 20 | Hooker & Dorr | Elmira | | |

## Diluted Acetic Acid, U. S. P. — (*Concluded*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6604 | October 20 | A. S. Hamilton | Elmira | 1.90 | Inferior. |
| 6605 | 20 | A. C. Roland | Elmira | 5.10 | Fair. |
| 6606 | 21 | White & Burdick | Ithaca | 3.80 | Inferior. |
| 6607 | 21 | A. B. Brooks | Ithaca | 23.60 | Excessive strength. |
| 6608 | 21 | S. Grant | Ithaca | 30.60 | Excessive strength. |
| 6609 | 21 | J. B. Todd | Ithaca | 7.10 | Good. |
| 6610 | 21 | Baker & Warren | Ithaca | 30.10 | Excessive strength. |
| 6611 | 21 | McClune & Fisher | Ithaca | 5.20 | Fair. |
| 6612 | 21 | C. F. Brown | Cortland | 4.30 | Inferior. |
| 6613 | 21 | Fitz, Boynton & Co | Cortland | 4.00 | Inferior. |
| 6614 | 21 | F. E. Brogden | Cortland | 4.00 | Inferior. |
| 6615 | 21 | F. J. Graham | Cortland | 3.20 | Inferior. |
| 6616 | 21 | C. F. Brown | Cortland | 4.50 | Fair. |
| 6617 | 23 | D. H. Van Heusen | Johnstown | 4.00 | Inferior. |
| 6618 | 23 | W. B. Van Vliet | Johnstown | 6.40 | Good. |
| 6619 | 23 | Sutliff & Livingston | Johnstown | 4.50 | Fair. |
| 6620 | 23 | J. F. Cahill | Johnstown | 28.50 | Excessive strength. |
| 6621 | 23 | C. E. Purington & Co. | Johnstown | 33.30 | Excessive strength. |
| 6622 | 23 | J A. Miller & Co. | Gloversville | 4.70 | Fair. |
| 6623 | 23 | J. B. Stone | Gloversville | 3.80 | Inferior. |
| 6624 | 23 | G. Rowe | Gloversville | 30.50 | Excessive strength. |

requires ten per cent by weight of the gas. The samples examined varied from 1.60 per cent to 25.60 per cent, and an examination of the following table will show that while in many cases an article very deficient in strength is sold, in many other cases the stronger solution is dispensed with little or no dilution:

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent ammonia gas. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4509 | March 16 | F. W. Schaefer | Albany | 7.90 | Fair. |
| 4510 | 16 | C. H. Smith & Co | Albany | 9.10 | Good. |
| 4511 | 16 | Wm. McAllaster | Albany | 2.90 | Inferior. |
| 4512 | 16 | J. D. Palmatier | Albany | 6.90 | Inferior. |
| 4513 | 16 | T. W. Nellis | Albany | 4.10 | Inferior. |
| 4514 | 16 | F. H. Bassett | Albany | 6.30 | Inferior. |
| 4515 | 16 | Estate of J. E. Miller | Albany | 8.10 | Fair. |
| 4532 | 17 | S. C. Bradt & Son | Albany | 15.00 | Excessive strength. |
| 4533 | 18 | J. C. Van Loon | Albany | 14.80 | Excessive strength. |
| 4534 | 18 | L. Sautter | Albany | 8.10 | Fair. |
| 4535 | 18 | W. E. Masten | Albany | 5.90 | Inferior. |
| 4536 | 18 | Wm. S. Elmendorf | Albany | 11.80 | Good. |
| 4537 | 18 | L. H. Gaus | Albany | 7.10 | Inferior. |
| 4538 | 18 | Turner Bros | Albany | 7.30 | Inferior. |
| 4539 | 18 | O. Scholz | Albany | 14.70 | Excessive strength. |
| 4540 | 18 | J. W. Heller | Albany | 22.60 | Excessive strength. |

## Water of Ammonia, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent ammonia gas. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4562 | March 20 | T. J. Lewi | Albany | 8.10 | Fair. |
| 4563 | 20 | A. Gilbert | Albany | 6.60 | Inferior. |
| 4564 | 20 | M. W. Macomber | Albany | 8.30 | Fair. |
| 4565 | 20 | J. De P. Townsend | Albany | 7.20 | Inferior. |
| 4566 | 20 | A. H. Bayard | Albany | 5.40 | Inferior. |
| 4567 | 20 | H. Miller | Albany | 5.00 | Inferior. |
| 4985 | 21 | Brown & Dawson | Syracuse | 11.70 | Good. |
| 4986 | 21 | Dwight & Reed | Syracuse | 6.20 | Inferior. |
| 4987 | 21 | Fox & Dygert | Syracuse | 8.70 | Fair. |
| 4988 | 21 | Coogan & Quigley | Syracuse | 8.60 | Fair. |
| 4989 | 21 | Fry & Martin | Syracuse | ov 16.00 | (Labeled "Conc. Ammonia.") Error in sale. |
| 4990 | 21 | P. L. Ryan & Co | Syracuse | 7.50 | Fair. |
| 4991 | 21 | F. C. Joslyn & Co | Syracuse | 7.20 | Inferior. |
| 4992 | 21 | E. B. Covert | Syracuse | ov 16.00 | Excessive strength. |
| 4993 | 21 | T. W. Dalton & Co | Syracuse | 9.60 | Good. |
| 4994 | 21 | R. E. Smith | Syracuse | 5.70 | Inferior. |
| 4995 | 21 | Hanna & Coling | Syracuse | 9.10 | Good. |
| 4996 | 21 | W. B. Bissell | Syracuse | 12.50 | Good. |
| 4997 | 21 | E. L. Gleason | Syracuse | ov 16.00 | (Labeled "Stronger Water of Ammonia in sale.") |

| | | | | | |
|---|---|---|---|---|---|
| 5001 | 21 | O. B. Heyne | Syracuse | ov 16.00 | Good. |
| 5002 | 21 | Wm. Muench | Syracuse | 11.80 | Excessive strength. Good. |
| 5003 | 21 | G. W. Holloway | Syracuse | 5.90 | Inferior. |
| 5004 | 21 | O. P. Barnum | Syracuse | 10.20 | Good. |
| 5005 | 21 | S. D. De Voe | Syracuse | 5.60 | Inferior. |
| 5006 | 21 | F. E. Champlin & Co | Syracuse | 9.40 | Good. |
| 5007 | 21 | R. Bodden | Syracuse | 10.40 | Good. |
| 5008 | 21 | W. B. Fuller | Syracuse | 10.50 | Good. |
| 5009 | 21 | W. D. Tallman | Syracuse | 6.70 | Inferior. |
| 5010 | 21 | F. C. Joslyn & Co | Syracuse | 6.40 | Inferior. |
| 5011 | 21 | L. D. Korb | Syracuse | 7.90 | Fair. |
| 5012 | 22 | Myers Bros | Oneida | 12.20 | Good. |
| 5013 | 22 | Hernan & Campbell | Oneida | ov 16.00 | (Labeled "Stronger.") Error in sale. |
| 5014 | 22 | Brown & Drake | Oneida | 13.80 | Excessive strength. |
| 5015 | 22 | J. H. Cool | Oneida | 6.90 | Inferior. |
| 5016 | 23 | F. J. Hager & Co | Rome | ov 16.00 | Excessive strength. |
| 5017 | 23 | F. M. Hamlin | Rome | 11.00 | Good. |
| 5018 | 23 | J. G. Bissell | Rome | ov 16.00 | Excessive strength. |
| 5019 | 23 | Broughton & Graves | Rome | ov 16.00 | Excessive strength. |
| 5020 | 24 | F. T. Ray & Co | Utica | 10.70 | Good. |
| 5021 | 24 | J. B. McMillan | Utica | 7.50 | Good. |
| 5022 | 24 | J. H. Sheehan & Co | Utica | 12.30 | Good. |
| 5023 | 24 | Howarth & Ballard | Utica | 6.20 | Inferior. |
| 5024 | 24 | J. W. Cone | Utica | 7.90 | Fair. |
| 5025 | 24 | G. L. Hill | Utica | 2.10 | Inferior. |
| 5026 | 24 | Wm. Blakie | Utica | 11.20 | Good. |
| 5027 | 24 | Luce & Plumb | Utica | 9.60 | Good. |

## Water of Ammonia, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent ammonia gas. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5028 | March 24 | T. Manahan | Utica | 16.80 | (Labeled "Strong.") Error in sale. |
| 5029 | 24 | E. E. Jones | Utica | 7.00 | Inferior. |
| 5030 | 24 | Wm. Howarth | Utica | 8.80 | Fair. |
| 5031 | 24 | J. B. Williams | Utica | ov 16.00 | (Labeled "Stronger.") Error in sale. |
| 5032 | 24 | H. K. Preston | Utica | 6.20 | Inferior. |
| 5033 | 24 | W. A. Teachout | Utica | 9.80 | Good. |
| 5034 | 25 | J. Donnelly | Amsterdam | 4.70 | Inferior. |
| 5035 | 25 | G. H. Ingraham | Amsterdam | 10.60 | Good. |
| 5036 | 25 | Bradford & Dickinson | Amsterdam | 10.40 | Good. |
| 5037 | 25 | M. W. Reid | Amsterdam | 15.20 | Excessive strength. |
| 5038 | 25 | E. W. Clark | Amsterdam | ov 16.00 | Excessive strength. |
| 5039 | 25 | C. W. Stricker | Amsterdam | 14.60 | Excessive strength. |
| 5040 | 25 | Powell & Gilbert | Amsterdam | 5.90 | Inferior. |
| 5041 | 25 | N. C. Becker | Amsterdam | ov 16.00 | Excessive strength. |
| 5042 | 25 | J. V. Riggs | Amsterdam | 12.30 | Good. |
| 5043 | 25 | C. H. Horstmann | Schenectady | 3.20 | Inferior. |
| 5044 | 25 | E. Rosa | Schenectady | 17.90 | (Labeled "Stronger.") Error in sale. |
| 5045 | 25 | A. T. Veeder & Son | Schenectady | 19.50 | Excessive strength. |
| 5046 | 25 | G. Steinfuhrer | Schenectady | 8.70 | Fair. |
| 5047 | 25 | J. L. Lyon | Schenectady | 14.10 | Excessive strength. |

| | | | | | |
|---|---|---|---|---|---|
| 5260 | 25 | H. S. Moore | Schenectady | 8.90 | Fair. |
| 5264 | 17 | F. S. Smith | Auburn | 6.30 | Inferior. |
| 5265 | 17 | A. Z. Wright | Auburn | 7.40 | Inferior. |
| 5266 | 17 | C. B. Sears | Auburn | 9.40 | Good. |
| 5267 | 17 | H. Hamilton | Auburn | 7.10 | Inferior. |
| 5268 | 17 | J. L. Elliott | Auburn | 7.80 | Fair. |
| 5269 | 17 | L. Hunt | Auburn | 2.80 | Inferior. |
| 5270 | 17 | Wickes & Fraser | Auburn | 7.80 | Fair. |
| 5271 | 17 | C. H. Sagar Co | Auburn | 8.10 | Fair. |
| 5272 | 17 | M. L. Walley & Co | Auburn | 8.00 | Fair. |
| 5273 | 17 | H. L. Adams | Auburn | 3.50 | Inferior. |
| 5274 | 17 | T. B. Sharp & Son | Seneca Falls | 4.40 | Inferior. |
| 5275 | 17 | Casey & Seaman | Seneca Falls | 9.50 | Good. |
| 5276 | 17 | P. Van Kleeck | Seneca Falls | 10.90 | Good. |
| 5277 | 17 | Crobaugh & Marsden | Waterloo | 5.50 | Inferior. |
| 5278 | 17 | R. G. Smith & Son | Waterloo | 10.90 | Good. |
| 5279 | 18 | M. Barkman | Geneva | 25.60 | Excessive strength. |
| 5280 | 18 | J. A. Zoberist | Geneva | 19.90 | Excessive strength. |
| 5281 | 18 | W. H. Partridge | Geneva | 10.10 | Good. |
| 5282 | 18 | Haviland & Henninp | Geneva | 3.70 | Inferior. |
| 5283 | 18 | A. L. Sweet | Geneva | 8.90 | Fair. |
| 5284 | 18 | E. W. Simmons | Canandaigua | 7.60 | Fair. |
| 5285 | 18 | A. S. Newman | Canandaigua | 7.90 | Fair. |
| 5286 | 18 | Pierson & Benham | Canandaigua | 7.10 | Inferior. |
| 5287 | 18 | A. D. Paul & Co | Canandaigua | 8.80 | Fair. |
| 5288 | 19 | Curran & Goler | Rochester | 7.70 | Fair. |
| 5289 | 19 | O. J. & J. A. Bryan | Rochester | 7.80 | Fair. |
| 5290 | 19 | Paine Drug Co | Rochester | 9.90 | Good. |
| 5291 | 19 | C. H. Althaus | Rochester | 6.90 | Inferior. |

## Water of Ammonia, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent ammonia gas. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5292 | May 19 | Scofield & Barker | Rochester | 7.90 | Fair. |
| 5293 | 20 | Hyde & Paige | Rochester | 7.40 | Inferior. |
| 5294 | 20 | Dake Bros. Drug Co | Rochester | 4.60 | Inferior. |
| 5295 | 20 | J. & J. Cooper | Rochester | 7.60 | Fair. |
| 5296 | 20 | A. R. Mandeville & Co | Rochester | 13.00 | Excessive strength. |
| 5297 | 20 | A. M. Dixon & Co | Rochester | 8.90 | Fair. |
| 5298 | 20 | E. Fellman | Rochester | 8.90 | Fair. |
| 5299 | 20 | W. W. Steele | Rochester | 9.00 | Good. |
| 5300 | 20 | Ballard & Hurlburt | Rochester | 6.60 | Inferior. |
| 5301 | 22 | W. H. Crippen | Rochester | ov 16.00 | Excessive strength. |
| 5302 | 22 | A. B. Chamberlain | Rochester | 11.20 | Good. |
| 5303 | 22 | R. J. Strasenburgh | Rochester | ov 18.00 | Excessive strength. |
| 5304 | 22 | J. K. Post & Co | Rochester | 14.00 | Excessive strength. |
| 5305 | 22 | E. H. Davis & Co | Rochester | 10.00 | Good. |
| 5306 | 22 | R. W. Chambers & Co | Rochester | 15.00 | Excessive strength. |
| 5307 | 22 | N. Barrowclough | Rochester | 5.60 | Inferior. |
| 5308 | 22 | J. P. Irish | Rochester | 14.70 | Excessive strength. |
| 5309 | 22 | G. Hahn | Rochester | 10.00 | Good. |
| 5310 | 22 | S. A. Merriam | Rochester | 9.30 | Good. |
| 5311 | 22 | L. Wyeth | Rochester | 6.30 | Inferior. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5317 | | 22 | M. Levin | Rochester | 9.60 | Good. |
| 5318 | | 22 | W. W. Steele | Rochester | 9.80 | Good. |
| 5319 | | 23 | J. C. Lung | Rochester | 7.30 | Inferior. |
| 5320 | | 23 | C. H. Gauger | Rochester | 9.20 | Good. |
| 5321 | | 23 | T. M. Stewart | Rochester | 8.40 | Fair. |
| 5322 | | 23 | Craig & Vanderbilt | Rochester | 9.20 | Good. |
| 5323 | | 23 | C. F. Maid | Rochester | ov 16.00 | Excessive strength. |
| 5324 | | 23 | F. W. Jackson & Co. | Rochester | 5.60 | Inferior. |
| 5325 | | 23 | A. C. Dempsey | Rochester | 5.30 | Inferior. |
| 5326 | | 23 | W. A. Barber | Rochester | 8.90 | Fair. |
| 5327 | | 23 | J. M. Schmitt | Rochester | 7.69 | Fair. |
| 5328 | | 23 | F. L. Hewitt | Rochester | 6.20 | Inferior. |
| 5329 | | 23 | F. S. Mason | Rochester | 8.60 | Fair. |
| 5330 | | 23 | J. F. Burkard | Rochester | 9.00 | Good. |
| 5331 | | 23 | F. L. Zimmerman | Rochester | 15.00 | Excessive strength. |
| 5332 | | 24 | J. W. Rushmore | Palmyra | 7.20 | Inferior. |
| 5333 | | 24 | N. R. Gardner | Palmyra | 9.80 | Good. |
| 5334 | | 24 | B. H. Davis & Co. | Palmyra | 16.20 | Excessive strength. |
| 5335 | | 24 | R. E. Morse & Son | Newark | 6.30 | Inferior. |
| 5336 | | 24 | W. H. Kelley | Newark | 15.50 | Excessive strength. |
| 5337 | | 24 | M. H. Dillenbeck | Lyons | 6.60 | Inferior. |
| 5338 | | 24 | G. W. Getman | Lyons | 7.40 | Inferior. |
| 5339 | | 24 | Moore & Moore | Lyons | 9.10 | Good. |
| 5340 | | 24 | G. W. Koester | Lyons | 8.20 | Fair. |
| 5341 | | 25 | C. A. Sherman | Clyde | 6.50 | Inferior. |
| 5342 | | 25 | Freeman & Martin | Clyde | ov 16.00 | Excessive strength. |
| 5343 | | 25 | P. Merrill & Son | Clyde | 9.40 | Good. |
| 5344 | | 25 | F. H. Terry | Clyde | 7.40 | Inferior. |
| 5952 | July | 17 | A. J. Fellows | Chatham | 8.30 | Fair. |
| 5953 | | 17 | H. J. Baringer, Jr. | Chatham | ov 16.00 | Excessive strength. |

## Water of Ammonia, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent ammonia gas. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5954 | July 17 | W. H. Barnes | Chatham | 11.90 | Good. |
| 5955 | 17 | C. S. Hanks | Hudson | 8.80 | Fair. |
| 5956 | 17 | A. McKinstry & Son | Hudson | 8.40 | Fair. |
| 5957 | 17 | Van Tassel & Tobey | Hudson | 6.60 | Inferior. |
| 5958 | 17 | J. M. Johnson | Hudson | 7.50 | Fair. |
| 5959 | 17 | Rice Bros | Hudson | 7.50 | Fair. |
| 5960 | 17 | B. Stedman | Hudson | 14.50 | Excessive strength. |
| 5961 | 17 | Wardle & Son | Hudson | 8.70 | Fair. |
| 5962 | 17 | G. L. Brown | Poughkeepsie | 4.20 | Inferior. |
| 5963 | 17 | J. V. Humphrey | Poughkeepsie | 10.60 | Good. |
| 5964 | 17 | Doty & Humphrey | Poughkeepsie | 6.80 | Inferior. |
| 5965 | 17 | C. S. Bowne | Poughkeepsie | 8.00 | Fair. |
| 5966 | 17 | F. R. Bolton | Poughkeepsie | 8.00 | Fair. |
| 5967 | 17 | Strickler & Schwartz | Poughkeepsie | 10.20 | Good. |
| 5968 | 17 | Wood & Tittamer | Poughkeepsie | 9.20 | Good. |
| 5969 | 17 | Barnes Bros | Poughkeepsie | 7.20 | Inferior. |
| 5970 | 17 | C. Westervelt. | Poughkeepsie | 7.20 | Inferior. |
| 5971 | 17 | Jas. Wilkinson | Poughkeepsie | 6.00 | Inferior. |
| 5972 | 17 | T. W. Roberts | Poughkeepsie | 5.60 | Inferior. |
| 5973 | 17 | A. A. & J. W. Goetchins | Poughkeepsie | 19.40 | Excessive strength. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5978 | | 18 | E. H. Ellis | [redacted] | 2.00 | Inferior. |
| 5979 | | 18 | Griffin & Lent | Peekskill | 13.40 | Excessive strength. |
| 5980 | | 18 | C. E. Gregory | Peekskill | 18.40 | Excessive strength. |
| 5981 | | 18 | F. A. Grenzebach | Peekskill | 10.60 | Good. |
| 5982 | | 18 | H. H. Lane | Peekskill | 12.30 | Good. |
| 5983 | | 18 | T. A. Whitney | Peekskill | 1.70 | Inferior. |
| 5984 | | 18 | J. C. Russell | Sing Sing | 9.40 | Good. |
| 5985 | | 18 | J. A. Hart | Sing Sing | 12.00 | Good. |
| 5986 | | 18 | S. O. Washburne | Sing Sing | 7.80 | Fair. |
| 5987 | | 19 | J. Stahl, Jr | Yonkers | 2.20 | Inferior. |
| 5988 | | 19 | T. A. Walsh | Yonkers | 6.90 | Inferior. |
| 5989 | | 19 | G. B. Wray | Yonkers | 9.80 | Good. |
| 5990 | | 19 | E. Spock | Yonkers | 12.50 | Good. |
| 5991 | | 19 | J. W. Wickersham | Yonkers | 6.50 | Inferior. |
| 5992 | | 19 | E. A. Houston | Yonkers | 12.10 | Good. |
| 5993 | | 19 | J. B. Brouwer | Yonkers | 6.00 | Inferior. |
| 5994 | | 19 | J. T. Lennon | Yonkers | 8.20 | Fair. |
| 5995 | | 19 | L. J. Schlesinger | Yonkers | 10.70 | Good. |
| 5996 | | 19 | A. Van Houten | Yonkers | 5.30 | Inferior. |
| 5997 | | 19 | F. Olivet | Mount Vernon | 11.20 | Good. |
| 5998 | | 19 | C. E. Penfield | Mount Vernon | 8.20 | Fair. |
| 5999 | | 19 | E. Laviolette | Mount Vernon | 8.70 | Fair. |
| 6000 | | 19 | A. Richter & Co | Mount Vernon | 9.60 | Good. |
| 6001 | | 19 | A. H. Lins | Mount Vernon | 8.40 | Fair. |
| 6002 | | 19 | T. F. Hunt | Mount Vernon | 10.30 | Good. |
| 6003 | | 19 | F. W. Carlisle | Mount Vernon | 8.40 | Fair. |
| 6004 | | 19 | Gill's Pharmacy | Mount Vernon | 17.00 | Excessive strength. |
| 6005 | | 19 | F. H. Nowill | White Plains | 12.40 | Good. |
| 6497 | October | 18 | L. B. Campbell | Binghamton | 7.50 | Fair. |
| 6498 | | 18 | N. W. Waldron | Binghamton | 10.00 | Good. |

## Water of Ammonia, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent ammonia gas. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6499 | October 18 | H. A. Smith | Binghamton | 11.40 | Good. |
| 6500 | 18 | L. C. Mosher | Binghamton | 7.70 | Fair. |
| 6501 | 18 | Dean & Guilfoyle | Binghamton | 9.00 | Good. |
| 6502 | 18 | P. W. Cunningham | Binghamton | 9.30 | Good. |
| 6503 | 18 | Williams & Anderson | Binghamton | 10.60 | Good. |
| 6504 | 18 | Rourke Bros | Binghamton | 8.00 | Fair. |
| 6505 | 18 | J. Schnell | Binghamton | 6.10 | Inferior. |
| 6506 | 18 | W. Day | Binghamton | 23.60 | Excessive strength. |
| 6507 | 18 | E. J. Bodle & Co. | Binghamton | 7.10 | Inferior. |
| 6508 | 19 | E. L. Ostrom | Binghamton | 5.30 | Inferior. |
| 6509 | 19 | C. H. Loveland | Binghamton | 8.40 | Fair. |
| 6510 | 19 | A. H. Gaige | Binghamton | 10.00 | Good. |
| 6511 | 19 | Anderson & Wilcox | Owego | 11.20 | Good. |
| 6512 | 19 | Beach & Parmelee | Owego | 13.50 | Excessive strength. |
| 6513 | 19 | J. C. Kenyon | Owego | 7.60 | Fair. |
| 6514 | 19 | E. A. Starkey | Owego | 6.30 | Inferior. |
| 6515 | 19 | F. M. Humiston | Owego | 7.00 | Inferior. |
| 6516 | 19 | H. H. Hayes & Son | Waverly | 4.70 | Inferior. |
| 6517 | 19 | E. J. Neaves | Waverly | 4.30 | Inferior. |
| 6518 | 19 | J. C. Van Atta | Waverly | 7.30 | Inferior. |

| | | | | | |
|---|---|---|---|---|---|
| 6522 | 20 | Robertson & Luther | Hornellsville | 6.40 | Inferior. |
| 6523 | 20 | C. H. Young | Hornellsville | 10.20 | Good. |
| 6524 | 20 | G. T. Reed & Co | Hornellsville | 7.10 | Inferior. |
| 6525 | 20 | H. G. Pierson | Hornellsville | 13.00 | Excessive strength. |
| 6526 | 20 | A. S. Van Winkle | Hornellsville | 11.20 | Good. |
| 6527 | 20 | J. W. Bachman | Hornellsville | 8.90 | Fair. |
| 6528 | 20 | Heermans & Co | Corning | 13.30 | Excessive strength. |
| 6529 | 20 | A. B. Holmes | Corning | 14.50 | Excessive strength. |
| 6530 | 20 | R. W. Terbell | Corning | 8.00 | Fair. |
| 6531 | 20 | W. J. Marsh | Corning | 3.00 | Inferior. |
| 6532 | 20 | Cole & Matthews | Corning | 4.40 | Inferior. |
| 6533 | 20 | C. S. & F. Ingraham | Elmira | 7.80 | Fair. |
| 6534 | 20 | Wm. R. W. Pound | Elmira | 7.00 | Inferior. |
| 6535 | 20 | W. H. Davis | Elmira | 1.60 | Inferior. |
| 6536 | 20 | E. A. Smith | Elmira | 9.60 | Good. |
| 6537 | 20 | T. S. Flood | Elmira | 6.60 | Inferior. |
| 6538 | 20 | C. P. Pettit | Elmira | 18.50 | Excessive strength. |
| 6539 | 20 | J. Meyer, Jr | Elmira | 3.50 | Inferior. |
| 6540 | 20 | Gerity Bros | Elmira | 8.20 | Fair. |
| 6541 | 20 | C. W. Biggs & Co | Elmira | 2.60 | Inferior. |
| 6542 | 20 | F. B. Parke | Elmira | 12.40 | Good. |
| 6543 | 20 | Hooker & Dorr | Elmira | 8.00 | Fair. |
| 6544 | 20 | A. S. Hamilton | Elmira | 11.20 | Good. |
| 6545 | 20 | A. C. Roland | Elmira | 6.40 | Inferior. |
| 6546 | 21 | White & Burdick | Ithaca | 11.40 | Good. |
| 6547 | 21 | A. B. Brooks | Ithaca | 5.40 | Inferior. |
| 6548 | 21 | S. Grant | Ithaca | 14.00 | Excessive strength. |
| 6549 | 21 | J. B. Todd | Ithaca | 8.00 | Fair. |
| 6550 | 21 | Baker & Warren | Ithaca | 3.90 | Inferior. |
| 6551 | 21 | McClune & Fisher | Ithaca | 20.90 | Excessive strength. |
| 6552 | 21 | Sager & Jennings | Cortland | 8.90 | Fair. |

## Water of Ammonia, U. S. P.—(*Concluded*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent ammonia gas. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6553 | October 21 | C. F. Brown | Cortland | 8.20 | Fair. |
| 6554 | 21 | Fitz, Boynton & Co | Cortland | 17.10 | Excessive strength. |
| 6555 | 21 | F. E. Brogden | Cortland | 4.60 | Inferior. |
| 6556 | 21 | F. I. Graham | Cortland | 6.80 | Inferior. |
| 6557 | 21 | G. W. Bradford | Cortland | 8.90 | Fair. |
| 6558 | 21 | C. F. Brown | Cortland | 15.40 | Excessive strength. |
| 6559 | 23 | D. H. Van Heusen | Johnstown | 15.90 | Excessive strength. |
| 6560 | 23 | W. B. Van Vliet | Johnstown | 15.90 | Excessive strength. |
| 6561 | 23 | Sutliff & Livingston | Johnstown | 8.20 | Fair. |
| 6562 | 23 | J. F. Cahill | Johnstown | 14.00 | Excessive strength. |
| 6563 | 23 | C. E. Purington & Co | Johnstown | 6.00 | Inferior. |
| 6564 | 23 | G. A. Cole | Gloversville | 12.50 | Good. |
| 6565 | 23 | J. A. Miller & Co | Gloversville | 14.00 | Excessive strength. |
| 6566 | 23 | J. B. Stone | Gloversville | 14.70 | Excessive strength. |
| 6567 | 23 | Houck & Patrick | Gloversville | 13.50 | Excessive strength. |
| 6568 | 23 | J. T. Avery & Co | Gloversville | 20.00 | Excessive strength. |
| 6569 | 23 | G. Rowe | Gloversville | 8.00 | Fair. |
| 6570 | 23 | A. M. Simmons | Gloversville | 6.90 | Inferior. |

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1892. | | | |
| 4411 | February 25 | A. B. Huested & Co | Albany | Good. |
| 4412 | 25 | A. B. Huested & Co | Albany | Good. |
| 4413 | 27 | Est. of J. E. Miller | Albany | Largely adulterated with foreign starch. Inferior. |
| 4414 | 27 | S. C. Hodgkin | Albany | Good. |
| 4415 | 27 | J. M. Bandorf | Albany | Good. |
| 4416 | 27 | L. Sautter | Albany | Good. |
| 4417 | 27 | C. Van Loon | Albany | Good. |
| 4418 | 27 | T. W. Nellis | Albany | Fair. |
| 4419 | 27 | Wm. Sautter | Albany | Good. |
| 4420 | 27 | F. H. Bassett | Albany | Good. |
| 4421 | 28 | J. D. Palmatier | Albany | Good. |
| 4422 | 28 | A. R. Miller | Albany | Largely adulterated with foreign starch. Inferior. |
| 4423 | 28 | S. C. Bradt & Son | Albany | Good. |
| 4424 | 28 | C. H. Gaus | Albany | Good. |
| 4425 | 28 | E. F. Hunting | Albany | Good. |
| 4426 | 28 | F. W. Schaefer | Albany | Largely adulterated with foreign starch. Inferior. |
| 4427 | 28 | M. W. Macomber | Albany | Good. |

## Creasote — (*Creasotum, U. S. P.*).

This is described in the pharmacopœia as "a product of the distillation of wood tar." Beech-wood tar is frequently employed, and it consists of a mixture of phenols, chiefly guaiacol and creosol. Crude carbolic acid, sometimes designated in the trade "coal-tar creasote," and consisting chiefly of phenol and cresol, is very commonly sold for real creasote because much cheaper, but the substitution should not be made as the articles possess different properties and when creasote is called for the true article should be supplied. From the following table it will be seen that of the 222 samples furnished only 119 were real creasote of good quality; one was of fair quality, and the remainder consisted chiefly of carbolic acid.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4574 | March 16 | F. W. Schaefer | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4575 | 16 | E. F. Hunting | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4576 | 16 | C. H. Smith & Co | Albany | Good. |
| 4577 | 16 | C. H. Gaus | Albany | Good. |
| 4578 | 16 | Wm. McAllaster | Albany | Good. |
| 4579 | 16 | J. D. Palmatier | Albany | Chiefly carbolic acid; not real creasote (labeled "Commercial.") Error in sale. |
| 4580 | 16 | A. B. Huested & Co | Albany | Good. |
| 4581 | 16 | T. W. Nellis | Albany | Good. |

| | | | | |
|---|---|---|---|---|
| 4584 | 16 | Est. of J. E. Miller | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4585 | 17 | A. R. Miller | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4586 | 17 | S. C. Bradt & Son | Albany | Good. |
| 4587 | 18 | J. C. Van Loon | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4588 | 18 | L. Sautter | Albany | Good. |
| 4589 | 18 | W. E. Masten | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4590 | 18 | Wm. S. Elmendorf | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4591 | 18 | L. H. Gaus | Albany | Good. |
| 4592 | 18 | Turner Bros | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4593 | 18 | O. Scholz | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4594 | 18 | J. W. Heller & Co | Albany | Good. |
| 4595 | 20 | T. J. Lewi | Albany | Good. |
| 4596 | 20 | A. Gilbert | Albany | Good. |
| 4597 | 20 | M. W. Macomber | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4598 | 20 | J. DeP. Townsend | Albany | Good. |
| 4599 | 20 | H. Miller | Albany | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4606 | 21 | Brown & Dawson | Syracuse | Good. |
| 4607 | 21 | Dwight & Reed | Syracuse | Good. |
| 4608 | 21 | Fox & Dygert | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4609 | 21 | Coogan & Quigley | Syracuse | Good. |

## Creasote, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4610 | March 21 | Fry & Martin | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4611 | 21 | P. L. Ryan & Co | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4612 | 21 | F. C. Joslyn & Co | Syracuse | Good. |
| 4613 | 21 | E. B. Covert | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4614 | 21 | T. W. Dalton & Co | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4615 | 21 | R. E. Smith & Co | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4616 | 21 | Hanna & Coling | Syracuse | Good. |
| 4617 | 21 | Bissels' Pharmacy | Syracuse | Good. |
| 4618 | 21 | E. L. Gleason | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4619 | 21 | C. W. Snow & Co | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4620 | 21 | Soldan & Hubbard | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4621 | 21 | G. A. Heyne | Syracuse | Good. |
| 4622 | 21 | O. B. Heyne | Syracuse | Good. |

| | | | | |
|---|---|---|---|---|
| 4623 | 21 | Wm. Muenchs | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. (Labeled "Coal-tar creasote.") |
| 4624 | 21 | G. W. Holloway | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4625 | 21 | O. P. Barnum | Syracuse | Good. |
| 4626 | 21 | S. D. De Voe | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. (Labeled "Commercial.") |
| 4627 | 21 | J. M. Cummings | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4628 | 21 | F. E. Champlin & Co | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4629 | 21 | R. Bodden | Syracuse | Good. |
| 4630 | 21 | W. B. Fuller | Syracuse | Good. |
| 4631 | 21 | W. D. Tallman | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. (Labeled "Coal-tar creasote.") |
| 4632 | 21 | F. C. Joslyn & Co | Syracuse | Good. |
| 4633 | 21 | L. D. Korb | Syracuse | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4634 | 22 | Myers Bros | Oneida | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4635 | 22 | Hernan & Campbell | Oneida | Good. |
| 4636 | 22 | Brown & Drake | Oneida | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4637 | 22 | J. H. Cool | Oneida | Good. |
| 4638 | 23 | F. J. Hager & Co | Rome | Good. |

## Creasote, U. S. P. — (*Continued*).

| Number of sample | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4639 | March 23 | F. M. Hamlin | Rome | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4640 | 23 | J. G. Bissell & Co | Rome | Good. |
| 4641 | 23 | Broughton & Graves | Rome | Good. |
| 4642 | 24 | F. T. Ray & Co | Utica | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4643 | 24 | J. B. McMillan | Utica | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4644 | 24 | J. H. Sheehan & Co | Utica | Good. |
| 4645 | 24 | Howarth & Ballard | Utica | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4646 | 24 | J. W. Cone | Utica | Good. |
| 4647 | 24 | G. L. Hill | Utica | Good. |
| 4648 | 24 | W. Blaikie | Utica | Good. |
| 4649 | 24 | Luce & Plumb | Utica | Good. |
| 4650 | 24 | T. Manahan | Utica | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4651 | 24 | F. J. Gschwind | Utica | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4652 | 24 | E. E. Jones | Utica | Chiefly carbolic acid; not real creasote. Error in sale. (Labeled "Commercial.") |

| | | | | |
|---|---|---|---|---|
| | | | | creasote. Error in sale. (Labeled "Pure, White, True.") |
| 3654 | 24 | J. R. Williams | Utica | Good. |
| 4655 | 24 | H. K. Preston | Utica | Good. |
| 4656 | 24 | W. A. Teachout | Utica | Good. |
| 4657 | 25 | J. Donnelly | Amsterdam | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4658 | 25 | G. W. Ingraham | Amsterdam | Good. |
| 4659 | 25 | Bradford & Dickinson | Amsterdam | Good. |
| 4660 | 25 | M. W. Reid | Amsterdam | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4661 | 25 | E. W. Clark | Amsterdam | Good. |
| 4662 | 25 | C. W. Stricker | Amsterdam | Good. |
| 4663 | 25 | Powell & Gilbert | Amsterdam | Chiefly carbolic acid; not real creasote. Error in sale. (Labeled "Commercial.") |
| 4664 | 25 | N. C. Becker | Amsterdam | Good. |
| 4665 | 25 | J. V. Riggs | Amsterdam | Good. |
| 4666 | 25 | J. A. Barkhuff | Amsterdam | Good. |
| 4667 | 25 | C. H. Horstmann | Schenectady | Good. |
| 4668 | 25 | E. Rosa | Schenectady | Good. |
| 4669 | 25 | A. T. Veeder | Schenectady | Good. |
| 4670 | 25 | G. Steinfuhrer | Schenectady | Good. |
| 4671 | 25 | J. T. Lyon | Schenectady | Good. |
| 4672 | 25 | Wm. Sauter | Schenectady | Chiefly carbolic acid; not real creasote. Error in sale. |
| 4673 | 25 | G. E. Duryee | Schenectady | Chiefly carbolic acid; not real creosote. Error in sale. |

## Creasote, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4674 | March 25 | H. S. Moore | Schenectady | Chiefly carbolic acid; not real creasote. Error in sale. (Labeled "Commercial.") |
| 4675 | 22 | Harp & Lounsbery | Oneida | Good. |
| 5476 | May 17 | F. S. Smith | Auburn | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5477 | 17 | A. Z. Wright. | Auburn | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5478 | 17 | C. B. Sears | Auburn | Good. |
| 5479 | 17 | A. H. Hamilton | Auburn | Good. |
| 5480 | 17 | J. L. Elliott | Auburn | Good. |
| 5481 | 17 | L. Hunt | Auburn | Good. |
| 5482 | 17 | Wickes & Fraser | Auburn | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5483 | 17 | C. H. Sagar Co. | Auburn | Good. |
| 5484 | 17 | M. L. Walley & Co. | Auburn | Good. |
| 5485 | 17 | H. L. Adams | Auburn | Good. |
| 5486 | 17 | T. B. Sharp & Sons | Seneca Falls | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5487 | 17 | Casey & Seaman | Seneca Falls | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5488 | 17 | P. Van Kleeck | Seneca Falls | Chiefly carbolic acid; not real |

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|---|---|---|---|---|
| 5490 | 17 | R. G. Smith & Son | Waterloo | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5491 | 18 | M. Barkman | Geneva | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5492 | 18 | J. A. Zobrist | Geneva | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5493 | 18 | W. H. Partridge | Geneva | Good. |
| 5494 | 18 | Haviland & Hennip | Geneva | Good. |
| 5495 | 18 | A. L. Sweet | Geneva | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5496 | 18 | E. W. Simmons | Canandaigua | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5497 | 18 | A. S. Newman | Canandaigua | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5498 | 18 | Pierson & Benham | Canandaigua | Good. |
| 5499 | 18 | A. D. Paul & Co | Canandaigua | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5500 | 19 | Curran & Goler | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5501 | 19 | O. J. & J. A. Bryan | Rochester | Good. |
| 5502 | 19 | Paine Drug Co | Rochester | Good. |
| 5503 | 19 | C. H. Althaus | Rochester | Good. |
| 5504 | 19 | Scofield & Barker | Rochester | Good. |
| 5505 | 20 | Hyde & Paige | Rochester | Good. |
| 5506 | 20 | Dake Bros. Drug Co | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5507 | 20 | J. & J. Cooper | Rochester | Good. |
| 5508 | 20 | A. R. Mandeville & Co | Rochester | Fair. |
| 5509 | 20 | E. Fellman | Rochester | Good. |

## Creasote, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 5510 | May 20 | W. W. Steele | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5511 | 20 | Ballard & Hurlburt | Rochester | Good. |
| 5512 | 22 | W. H. Crippen | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5513 | 22 | R. J. Strasenburgh | Rochester | Good. |
| 5514 | 22 | J. K. Post & Co. | Rochester | Good. |
| 5515 | 22 | E. H. Davis & Co | Rochester | Good. |
| 5516 | 22 | R. W. Chambers & Co | Rochester | Good. |
| 5517 | 22 | N. Barrowclough | Rochester | Good. |
| 5518 | 22 | J. P. Irish | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5519 | 22 | G. Hahn | Rochester | Good. |
| 5520 | 22 | L. Wyeth | Rochester | Good. |
| 5521 | 22 | L. Klinzing | Rochester | Good. |
| 5522 | 22 | G. Mannel | Rochester | Good. |
| 5523 | 22 | F. Kobbe | Rochester | Good. |
| 5524 | 22 | G. W. Johns | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5525 | 22 | C. W. Waegner | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |

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|---|---|---|---|---|
| 5528 | 23 | J. C. Lung | Rochester | Good. |
| 5529 | 23 | C. H. Gauger | Rochester | Good. |
| 5530 | 23 | T. M. Stewart | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5531 | 23 | Craig & Vanderbilt | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5532 | 23 | C. F. Maid | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5533 | 23 | F. W. Jackson & Co | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5534 | 23 | A. C. Dempsey | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5535 | 23 | W. A. Barber | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5536 | 23 | J. M. Schmitt | Rochester | Good. |
| 5537 | 23 | F. L. Hewitt | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5538 | 23 | F. S. Mason | Rochester | Good. |
| 5539 | 23 | J. F. Burkard | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5540 | 23 | F. L. Zimmerman | Rochester | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5541 | 24 | J. W. Rushmore | Palmyra | Good. |
| 5542 | 24 | N. R. Gardner | Palmyra | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5543 | 24 | B. H. Davis & Co | Palmyra | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5544 | 24 | R. E. Morse & Son | Newark | Chiefly carbolic acid; not real creasote. Error in sale. |

## Creasote, U. S. P. — (*Continued*),

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 5545 | May 24 | William H. Kelley | Newark | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5546 | 24 | M. H. Dillenbeck | Lyons | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5547 | 24 | G. W. Getman | Lyons | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5548 | 24 | Moore & Moore | Lyons | Good. |
| 5549 | 24 | G. W. Koester | Lyons | Good. |
| 5550 | 25 | C. A. Sherman | Clyde | Good. |
| 5551 | 25 | Freeman & Martin | Clyde | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5552 | 25 | P. Merrill & Son | Clyde | Chiefly carbolic acid; not real creasote. Error in sale. |
| 5553 | 25 | F. H. Terry | Clyde | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6136 | July 17 | A. J. Fellows | Chatham | Good. |
| 6137 | 17 | H. J. Barringer, Jr. | Chatham | Good. |
| 6138 | 17 | W. H. Barnes | Chatham | Good. |
| 6139 | 17 | C. S. Hanks | Hudson | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6140 | 17 | A. McKinstry & Son | Hudson | Chiefly carbolic acid; not real creasote. Error in sale. |

| | | | | |
|---|---|---|---|---|
| 6143 | 17 | B. Stedman | [illegible] | [illegible] |
| 6144 | 17 | Wardle & Son | Hudson | Good. |
| 6145 | 17 | A. Clark | Poughkeepsie | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6146 | 17 | G. L. Brown | Poughkeepsie | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6147 | 17 | J. V. Humphrey | Poughkeepsie | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6148 | 17 | Doty & Humphrey | Poughkeepsie | Good. |
| 6149 | 17 | C. S. Bowne | Poughkeepsie | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6150 | 17 | F. R. Bolton | Poughkeepsie | Good. |
| 6151 | 16 | Strickler & Schwartz | Poughkeepsie | Good. |
| 6152 | 17 | Wood & Tittamer | Poughkeepsie | Good. |
| 6153 | 17 | Barnes Bros | Poughkeepsie | Good. |
| 6154 | 17 | C. Westervelt | Poughkeepsie | Good. |
| 6155 | 17 | T. W. Roberts | Poughkeepsie | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6156 | 17 | A. A. & J. W. Goetchins | Poughkeepsie | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6157 | 18 | F. Loughran | Fishkill | Good. |
| 6158 | 18 | Merritt's Drug Store | Fishkill | Good. |
| 6159 | 18 | E. H. Ellis | Matteawan | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6160 | 18 | H. Tate | Peekskill | Good. |
| 6161 | 18 | T. S. Boyd | Peekskill | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6162 | 18 | C. E. Gregory | Peekskill | Good. |
| 6163 | 18 | F. A. Grenzebach | Peekskill | Good. |
| 6164 | 18 | H. H. Lane | Peekskill | Good. |

Creasote U. S. P.—(*Continued*).

| Number of samples. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 6165 | July 18 | J. C. Russell | Sing Sing | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6166 | 18 | S. O. Washburne | Sing Sing | Good. |
| 6167 | 19 | J. Stahl, Jr. | Yonkers | Good. |
| 6168 | 19 | T. A. Walsh | Yonkers | Good. |
| 6169 | 19 | G. B. Wray | Yonkers | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6170 | 19 | E. Spock | Yonkers | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6171 | 19 | J. W. Wickersham | Yonkers | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6172 | 19 | E. A. Houston | Yonkers | Good. |
| 6173 | 19 | J. T. Lennon | Yonkers | Good. |
| 6174 | 19 | L. J. Schlesinger | Yonkers | Good. |
| 6175 | 19 | A. Van Houten | Yonkers | Good. |
| 6176 | 19 | F. Olivet | Mt. Vernon | Good. |
| 6177 | 19 | A. Richter & Co | Mt. Vernon | Good. |
| 6178 | 19 | A. H. Lins | Mt. Vernon | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6179 | 19 | T. F. Hunt | Mt. Vernon | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6180 | 19 | F. W. Carlisle | Mt. Vernon | Good. |
| 6181 | 19 | Gill's Pharmacy | Mt. Vernon | Good. |
| 6182 | 19 | F. H. Nowill | White Plains | Chiefly carbolic acid; not real creasote. Error in sale. |
| 6183 | 19 | J. W. Stafford | White Plains | Good. |

Dandelion — (*Taraxacum, U. S. P.*)

were of good quality, ten; fair, one; and

## Dandelion — (*Taraxacum, U. S. P.*).

Twelve samples of the root were collected, of which there were of good quality, ten; fair, one; and inferior, one, as follows:

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4399 | February 25 | A. B. Huested & Co | Albany | Good. |
| 4400 | 27 | Est. of J. E. Miller | Albany | Good. |
| 4401 | 27 | S. C. Hodgkins | Albany | Good. |
| 4402 | 27 | L. Sautter | Albany | Good. |
| 4403 | 27 | T. W. Nellis | Albany | Good. |
| 4404 | 27 | F. H. Bassett | Albany | Good. |
| 4405 | 28 | A. R. Miller | Albany | Good. |
| 4406 | 28 | S. C. Bradt & Son | Albany | Very wormy; inferior. |
| 4407 | 28 | C. H. Gaus | Albany | Fair. |
| 4408 | 28 | E. F. Hunting | Albany | Good. |
| 4409 | 28 | F. W. Schaefer | Albany | Good. |
| 4410 | 28 | W. W. Macomber | Albany | Good. |

**Compound Spirit of Ether** — (*Spiritus Aetheris Compositus, U. S. P.*).

Two hundred and six samples examined, of which there were of good quality, fifty-four; fair, twenty-two; inferior, one hundred and twenty nine; and not as called for, one. The latter consisted of spirit of nitrous ether or "sweet spirit of nitre." Concerning this article, which is a medicinal substance of real value but the use of which has been largely abandoned because so generally of little or no real value as sold in the stores, I quote from a previous report: "Compound spirit of ether or 'Hoffmann's anodyne' is frequently prescribed by physicians and often employed as a household remedy and while an article of good quality can be procured from responsible manufacturers, or prepared without difficulty by the intelligent and careful pharmacist, the fact is that a spurious article answering to none of the requirements of the pharmacopoeia is generally sold in its stead, because it is cheaper. Hoffmann's anodyne is openly quoted at fifty-seven cents a pound in a recent price list published in a leading pharmaceutical journal, which is not one-third the price of the real article. This cheap, spurious and worthless article, obtained as a secondary product in the manufacture of ether, consists chiefly of alcohol, ether and water, with little or none of the ethereal oil upon which the virtue of the preparation largely depends. Dealers may urge that the sale of this spurious article as a household remedy to people who would complain of the price necessarily charged for a genuine article is excusable; but without admitting this as a valid excuse for dispensing a fraudulent and worthless drug, it is evident that its sale in response to a physician's prescription or written order, giving full title and specifying 'U. S. P.,' is entirely inexcusable and unwarranted and equally blameworthy, whether due to ignorance or cupidity. The habit of keeping two qualities of officinal drugs can not be too strongly condemned, but the results of the above examination would seem to show that many dealers, so far as this preparation is concerned, keep only one, and that a spurious article. When officinal preparations are called for they should be furnished by the dealer, or no sale made."

The specific gravity of this preparation is not stated in the pharmacopoeia, but it should be about 0.796. As made by the process laid down in the Pharmacopoeia of 1870, in which ether, and not stronger ether, was employed and more of the ethereal oil was used, it had a specific gravity of 0.815, but the specific gravity alone is no criterion of quality. The specific gravity of the samples examined varied from 0.7850 to 0.9120. The following table gives particulars concerning the samples:

## Compound Spirit of Ether, U. S. P.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Specific gravity at 60 degrees Fahrenheit. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4878 | March 21 | Brown & Dawson ..... | Syracuse ..... | 0.7905 | Good. |
| 4879 | 21 | Dwight & Reed ..... | Syracuse ..... | 0.8430 | Deficient in ethereal oil; inferior. |
| 4880 | 21 | Fox & Dygert..... | Syracuse ..... | 0.8080 | Good. |
| 4881 | 21 | Coogan & Quigley .... | Syracuse ..... | 0.8725 | Deficient in ethereal oil; inferior. |
| 4882 | 21 | Fry & Martin ..... | Syracuse ..... | 0.8370 | Deficient in ethereal oil; inferior. |
| 4883 | 21 | P. L. Ryan & Co ..... | Syracuse ..... | 0.8050 | Small amount of ethereal oil; fair. |
| 4884 | 21 | F. C. Joslyn & Co.... | Syracuse ..... | 0.8070 | Small amount of ethereal oil; fair. |
| 4885 | 21 | E. B. Covert ..... | Syracuse ..... | 0.8650 | Deficient in ethereal oil; inferior. |
| 4886 | 21 | T. W. Dalton & Co... | Syracuse ..... | 0.8130 | Good. |
| 4887 | 21 | R. E. Smith ..... | Syracuse ..... | 0.8040 | Small amount of ethereal oil; fair. |
| 4888 | 21 | Hanna & Coling ..... | Syracuse ..... | 0.8580 | Deficient in ethereal oil; inferior. |
| 4889 | 21 | W. B. Bissell ..... | Syracuse ..... | 0.8100 | Small amount of ethereal oil; fair. |
| 4890 | 21 | E. L. Gleason..... | Syracuse ..... | 0.8470 | Deficient in ethereal oil; inferior. |
| 4891 | 21 | C. W. Snow & Co.... | Syracuse ..... | 0.8380 | Deficient in ethereal oil; inferior. |
| 4892 | 21 | Soldan & Hubbard .... | Syracuse ..... | 0.8710 | Deficient in ethereal oil; inferior. |
| 4893 | 21 | O. B. Heyne ..... | Syracuse ..... | 0.8000 | Deficient in ethereal oil; inferior. |
| 4894 | 21 | Wm. Muench ..... | Syracuse ..... | 0.8070 | Good. |
| 4895 | 21 | G. W. Holloway ..... | Syracuse ..... | 0.8070 | Good. |
| 4896 | 21 | O. P. Barnum ..... | Syracuse ..... | 0.8660 | Deficient in ethereal oil; inferior. |
| 4897 | 21 | S. D. De Voe..... | Syracuse ..... | 0.8350 | Deficient in ethereal oil; inferior. |
| 4898 | 21 | F. E. Champlin & Co. | Syracuse ..... | 0.8660 | Deficient in ethereal oil; inferior. |
| 4899 | 21 | R. Bodden..... | Syracuse ..... | 0.7990 | Good. |
| 4900 | | [illegible] | Syracuse ..... | 0.7970 | Good. |

| | | | | | |
|---|---|---|---|---|---|
| 4902 | 21 | F. C. Joslyn & Co.... | Syracuse..... | 0.8090 | Good. |
| 4903 | 21 | L. D. Corb..... | Syracuse..... | 0.8070 | Good. |
| 4904 | 22 | Myers Bros..... | Oneida ..... | 0.8060 | Deficient in ethereal oil; inferior. |
| 4905 | 22 | Hernan & Campbell ... | Oneida ..... | 0.8050 | Deficient in ethereal oil; inferior. |
| 4906 | 22 | Harp & Lounsbery .... | Oneida ..... | ..... | Good. |
| 4907 | 22 | J. H. Cool ..... | Oneida ..... | 0.7990 | Good. |
| 4908 | 23 | F. M. Hamlin..... | Rome ..... | 0.8120 | Good. |
| 4909 | 23 | J. G. Bissell & Co.... | Rome ..... | 0.8260 | Deficient in ethereal oil; inferior. |
| 4910 | 23 | Broughton & Graves .. | Rome ..... | 0.8680 | Deficient in ethereal oil; inferior. |
| 4911 | 24 | F. T. Ray & Co ..... | Utica ..... | 0.7890 | Good. |
| 4912 | 24 | J. B. McMillan ..... | Utica ..... | 0.8330 | Deficient in ethereal oil; inferior. |
| 4913 | 24 | J. H. Sheehan & Co .. | Utica ..... | 0.8370 | Deficient in ethereal oil; inferior. |
| 4914 | 24 | Howarth & Ballard.... | Utica ..... | 0.8470 | Deficient in ethereal oil; inferior. |
| 4915 | 24 | J. W. Cone . ..... | Utica ..... | 0.8010 | Good. |
| 4916 | 24 | G. L. Hill ..... | Utica ..... | 0.8050 | Good. |
| 4917 | 24 | Wm. Blaikie ..... | Utica ..... | 0.8210 | Deficient in ethereal oil ; inferior. |
| 4918 | 24 | Luce & Plumb..... | Utica ..... | 0.8610 | Deficient in ethereal oil ; inferior. |
| 4919 | 24 | F. J. Gschwind ..... | Utica ..... | 0.8240 | Deficient in ethereal oil ; inferior. |
| 4920 | 24 | E. E. Jones ..... | Utica ..... | 0.8360 | Deficient in ethereal oil ; inferior. |
| 4921 | 24 | Wm. Howarth ..... | Utica ..... | 0.8380 | Deficient in ethereal oil ; inferior. |
| 4922 | 24 | J. B. Williams ..... | Utica ..... | 0.8410 | Deficient in ethereal oil ; inferior. |
| 4923 | 24 | H. K. Preston ..... | Utica ..... | 0.8220 | Deficient in ethereal oil ; inferior. |
| 4924 | 24 | W. A. Teachout ..... | Utica ..... | 0.8360 | Deficient in ethereal oil ; inferior. |
| 4925 | 25 | E. W. Clark,..... | Amsterdam..... | 0.8040 | Deficient in ethereal oil ; inferior. |
| 4926 | 25 | C. W. Stricker..... | Amsterdam..... | 0.8380 | Deficient in ethereal oil ; inferior. |
| 4927 | 25 | Powell & Gilbert . ... | Amsterdam..... | 0.8100 | Deficient in ethereal oil ; inferior. |
| 4928 | 25 | N. C. Becker ..... | Amsterdam..... | 0.8030 | Good. |
| 4929 | 25 | J. V. Riggs ..... | Amsterdam..... | 0.8030 | Good. |
| 4930 | 25 | J. A. Barkhuff..... | Amsterdam..... | 0.8370 | Deficient in ethereal oil ; inferior. |
| 4931 | 25 | C. H. Horstmann .... | Schenectady..... | 0.8300 | Deficient in ethereal oil ; inferior. |

## Compound Spirit of Ether, U. S. P.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Specific gravity at 60 degrees Fahrenheit. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4878 | March 21 | Brown & Dawson ..... | Syracuse ..... | 0.7905 | Good. |
| 4879 | 21 | Dwight & Reed ..... | Syracuse ..... | 0.8430 | Deficient in ethereal oil; inferior. |
| 4880 | 21 | Fox & Dygert..... | Syracuse ..... | 0.8080 | Good. |
| 4881 | 21 | Coogan & Quigley .... | Syracuse ..... | 0.8725 | Deficient in ethereal oil; inferior. |
| 4882 | 21 | Fry & Martin ..... | Syracuse ..... | 0.8370 | Deficient in ethereal oil; inferior. |
| 4883 | 21 | P. L. Ryan & Co ..... | Syracuse ..... | 0.8050 | Small amount of ethereal oil; fair. |
| 4884 | 21 | F. C. Joslyn & Co.... | Syracuse ..... | 0.8070 | Small amount of ethereal oil; fair. |
| 4885 | 21 | E. B. Covert ..... | Syracuse ..... | 0.8650 | Deficient in ethereal oil; inferior. |
| 4886 | 21 | T. W. Dalton & Co... | Syracuse ..... | 0.8130 | Good. |
| 4887 | 21 | R. E. Smith ..... | Syracuse ..... | 0.8040 | Small amount of ethereal oil; fair. |
| 4888 | 21 | Hanna & Coling ..... | Syracuse ..... | 0.8580 | Deficient in ethereal oil; inferior. |
| 4889 | 21 | W. B. Bissell ..... | Syracuse ..... | 0.8100 | Small amount of ethereal oil; fair. |
| 4890 | 21 | E. L. Gleason..... | Syracuse ..... | 0.8470 | Deficient in ethereal oil; inferior. |
| 4891 | 21 | C. W. Snow & Co.... | Syracuse ..... | 0.8380 | Deficient in ethereal oil; inferior. |
| 4892 | 21 | Soldan & Hubbard .... | Syracuse ..... | 0.8710 | Deficient in ethereal oil; inferior. |
| 4893 | 21 | O. B. Heyne ..... | Syracuse ..... | 0.8000 | Deficient in ethereal oil; inferior. |
| 4894 | 21 | Wm. Muench ..... | Syracuse ..... | 0.8070 | Good. |
| 4895 | 21 | G. W. Holloway ..... | Syracuse ..... | 0.8070 | Good. |
| 4896 | 21 | O. P. Barnum ..... | Syracuse ..... | 0.8660 | Deficient in ethereal oil; inferior. |
| 4897 | 21 | S. D. De Voe..... | Syracuse ..... | 0.8350 | Deficient in ethereal oil; inferior. |
| 4898 | 21 | F. E. Champlin & Co. | Syracuse ..... | 0.8660 | Deficient in ethereal oil; inferior. |
| 4899 | 21 | R. Bodden..... | Syracuse ..... | 0.7990 | Good. |

| | | | | | |
|---|---|---|---|---|---|
| 4902 | 21 | P. C. Vosburgh ..... | Syracuse ..... | ..... | Good. |
| 4903 | 21 | L. D. Corb ..... | Syracuse ..... | 0.8070 | Good. |
| 4904 | 22 | Myers Bros. ..... | Oneida ..... | 0.8060 | Deficient in ethereal oil; inferior. |
| 4905 | 22 | Hernan & Campbell ... | Oneida ..... | 0.8050 | Deficient in ethereal oil; inferior. |
| 4906 | 22 | Harp & Lounsbery .... | Oneida ..... | ..... | Good. |
| 4907 | 22 | J. H. Cool ..... | Oneida ..... | 0.7990 | Good. |
| 4908 | 23 | F. M. Hamlin..... | Rome ..... | 0.8120 | Good. |
| 4909 | 23 | J. G. Bissell & Co.... | Rome ..... | 0.8260 | Deficient in ethereal oil; inferior. |
| 4910 | 23 | Broughton & Graves .. | Rome ..... | 0.8680 | Deficient in ethereal oil; inferior. |
| 4911 | 24 | F. T. Ray & Co ..... | Utica ..... | 0.7890 | Good. |
| 4912 | 24 | J. B. McMillan ..... | Utica ..... | 0.8330 | Deficient in ethereal oil; inferior. |
| 4913 | 24 | J. H. Sheehan & Co .. | Utica ..... | 0.8370 | Deficient in ethereal oil; inferior. |
| 4914 | 24 | Howarth & Ballard.... | Utica ..... | 0.8470 | Deficient in ethereal oil; inferior. |
| 4915 | 24 | J. W. Cone ..... | Utica ..... | 0.8010 | Good. |
| 4916 | 24 | G. L. Hill ..... | Utica ..... | 0.8050 | Good. |
| 4917 | 24 | Wm. Blaikie ..... | Utica ..... | 0.8210 | Deficient in ethereal oil ; inferior. |
| 4918 | 24 | Luce & Plumb..... | Utica ..... | 0.8610 | Deficient in ethereal oil ; inferior. |
| 4919 | 24 | F. J. Gschwind ..... | Utica ..... | 0.8240 | Deficient in ethereal oil ; inferior. |
| 4920 | 24 | E. E. Jones ..... | Utica ..... | 0.8360 | Deficient in ethereal oil ; inferior. |
| 4921 | 24 | Wm. Howarth ..... | Utica ..... | 0.8380 | Deficient in ethereal oil ; inferior. |
| 4922 | 24 | J. B. Williams ..... | Utica ..... | 0.8410 | Deficient in ethereal oil ; inferior. |
| 4923 | 24 | H. K. Preston ..... | Utica ..... | 0.8220 | Deficient in ethereal oil ; inferior. |
| 4924 | 24 | W. A. Teachout ..... | Utica ..... | 0.8360 | Deficient in ethereal oil ; inferior. |
| 4925 | 25 | E. W. Clark,..... | Amsterdam..... | 0.8040 | Deficient in ethereal oil ; inferior. |
| 4926 | 25 | C. W. Stricker..... | Amsterdam..... | 0.8380 | Deficient in ethereal oil ; inferior. |
| 4927 | 25 | Powell & Gilbert . ... | Amsterdam..... | 0.8100 | Deficient in ethereal oil ; inferior. |
| 4928 | 25 | N. C. Becker ..... | Amsterdam..... | 0.8030 | Good. |
| 4929 | 25 | J. V. Riggs ..... | Amsterdam..... | 0.8030 | Good. |
| 4930 | 25 | J. A. Barkhuff..... | Amsterdam..... | 0.8370 | Deficient in ethereal oil ; inferior. |
| 4931 | 25 | C. H. Horstmann .... | Schenectady..... | 0.8300 | Deficient in ethereal oil ; inferior. |

## Compound Spirit of Ether, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Specific gravity at 60 degrees Fahrenheit. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4932 | March 25 | E. Rosa | Schenectady | 0.8580 | Deficient in ethereal oil; inferior. |
| 4933 | 25 | A. T. Veeder & Co | Schenectady | 0.8050 | Good. |
| 4934 | 25 | G. Steinfuhrer | Schenectady | 0.7980 | Deficient in ethereal oil; inferior. |
| 4935 | 25 | J. T. Lyons | Schenectady | 0.8070 | Good. |
| 4936 | 25 | Wm. Sautter | Schenectady | 0.8070 | Good. |
| 4937 | 25 | G. E. Duryee | Schenectady | 0.8030 | Good. |
| 4938 | 25 | H. S. Moore | Schenectady | 0.8650 | Fair. |
| 5209 | May 17 | F. S. Smith | Auburn | 0.8010 | Deficient in ethereal oil; inferior. |
| 5210 | 17 | A. Z. Wright | Auburn | 0.8680 | Deficient in ethereal oil; inferior. |
| 5211 | 17 | C. B. Sears | Auburn | 0.8060 | Good. |
| 5212 | 17 | A. H. Hamilton | Auburn | 0.8040 | Fair. |
| 5213 | 17 | L. Hunt | Auburn | 0.8070 | Good. |
| 5214 | 17 | Wickes & Fraser | Auburn | 0.8040 | Fair. |
| 5215 | 17 | C. H. Sagar Co. | Auburn | 0.8000 | Good. |
| 5216 | 17 | H. L. Adams | Auburn | 0.8150 | Good. |
| 5217 | 17 | T. B. Sharp & Sons | Seneca Falls | 0.8150 | Deficient in ethereal oil; inferior. |
| 5218 | 17 | Casey & Seaman | Seneca Falls | 0.8470 | Deficient in ethereal oil; inferior. |
| 5219 | 17 | P. Van Kleeck | Seneca Falls | 0.8660 | Deficient in ethereal oil; inferior. |
| 5220 | 17 | Crobaugh & Marsden | Waterloo | 0.8280 | Deficient in ethereal oil; inferior. |
| 5221 | 17 | R. G. Smith & Son | Waterloo | 0.8470 | Deficient in ethereal oil; inferior. |
| 5222 | 18 | M. Barkman | Geneva | 0.8100 | Fair. |
| 5223 | 18 | J. A. Zobrist | Geneva | 0.8150 | Good. |
| 5224 | 18 | W. H. Partridge | Geneva | 0.8770 | Deficient in ethereal oil; inferior. |

| | | | | | |
|---|---|---|---|---|---|
| 5225 | 18 | Haviland & Hennip.... | Geneva..... | 0.8040 | Deficient in ethereal oil; inferior. |
| 5226 | 18 | A. L. Sweet ..... ... | Geneva..... | 0.8430 | Deficient in ethereal oil; inferior. |
| 5227 | 18 | A. D. Paul & Co..... | Canandaigua ..... | 0.8230 | Deficient in ethereal oil; inferior. |
| 5228 | 19 | O. J. & J. A. Bryan... | Rochester ..... | 0.8070 | Fair. |
| 5229 | 19 | Paine Drug Co..... | Rochester ..... | 0.8420 | Deficient in ethereal oil; inferior. |
| 5230 | 20 | Hyde & Page ..... | Rochester ..... | 0.8160 | Fair. |
| 5231 | 20 | Dake Bros. Drug Co... | Rochester ..... | 0.8090 | Deficient in ethereal oil; inferior. |
| 5232 | 20 | J. & J. Cooper..... | Rochester ..... | 0.8070 | Good. |
| 5233 | 20 | A. R. Mandeville & Co. | Rochester ..... | 0.8050 | Deficient in ethereal oil; inferior. |
| 5234 | 20 | A. M. Dixon & Co..... | Rochester ..... | 0.8140 | Fair. |
| 5235 | 20 | E. Fellman ..... | Rochester ..... | ..... | Good. |
| 5236 | 22 | Ballard & Hurlburt.... | Rochester ..... | 0.8290 | Deficient in ethereal oil; inferior. |
| 5237 | 22 | Wm. H. Crippen..... | Rochester ..... | 0.8050 | Good. |
| 5238 | 22 | A. B. Chamberlain..... | Rochester ..... | 0.8030 | Good. |
| 5239 | 22 | R. J. Strasenburgh ... | Rochester ..... | 0.8200 | Deficient in ethereal oil; inferior. |
| 5240 | 22 | J. K. Post & Co..... | Rochester ..... .. | 0.8190 | Deficient in ethereal oil; inferior. |
| 5241 | 22 | E. H. Davis & Co..... | Rochester ..... | 0.8390 | Deficient in ethereal oil; inferior. |
| 5242 | 22 | R. W. Chambers & Co. | Rochester ..... | 0.8070 | Good. |
| 5243 | 22 | S. A. Merriam ..... | Rochester ..... | 0.8380 | Deficient in ethereal oil; inferior. |
| 5244 | 22 | L. Wyeth ..... | Rochester ..... | 0.8360 | Deficient in ethereal oil; inferior. |
| 5245 | 22 | G. Mannel..... | Rochester ..... | 0.8000 | Deficient in ethereal oil; inferior. |
| 5246 | 22 | F. Kobbe ..... | Rochester ..... | 0.8050 | Good. |
| 5247 | 22 | G. W. Johns ..... | Rochester ..... | 0.8370 | Deficient in ethereal oil; inferior. |
| 5248 | 22 | C. W. Wagner ..... | Rochester ..... | 0.8080 | Deficient in ethereal oil; inferior. |
| 5249 | 22 | W. W. Steele..... | Rochester ..... | 0.8040 | Deficient in ethereal oil; inferior. |
| 5250 | 23 | J. C. Lung ..... | Rochester ..... | 0.8430 | Deficient in ethereal oil; inferior. |
| 5251 | 23 | T. M. Stewart ..... | Rochester ..... | 0.8500 | Deficient in ethereal oil; inferior. |
| 5252 | 23 | Craig & Vanderbelt... | Rochester ..... | 0.8420 | Deficient in ethereal oil; inferior. |
| 5253 | 23 | C. F. Maid..... | Rochester ..... | 0.8430 | Deficient in ethereal oil; inferior. |
| 5254 | 23 | F. W. Jackson & Co... | Rochester ..... | 0.8410 | Deficient in ethereal oil; inferior. |
| 5255 | 23 | A. C. Dempsey ..... | Rochester ..... | 0.8640 | Deficient in ethereal oil; inferior. |

## Compound Spirit of Ether, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | Of whom purchased. | Where purchased. | Specific gravity at 60 degrees Fahrenheit. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5256 | May 23 | J. M. Schmitt..... | Rochester ..... | 0.8000 | Good. |
| 5257 | 23 | F. L. Hewitt..... | Rochester ..... | 0.8400 | Deficient in ethereal oil; inferior. |
| 5258 | 24 | M. H. Dillenbeck ..... | Lyons ..... | 0.8660 | Deficient in ethereal oil; inferior. |
| 5259 | 24 | G. W. Getman..... | Lyons ..... | 0.8500 | Deficient in ethereal oil; inferior. |
| 5260 | 24 | G. W. Koester..... | Lyons ..... | 0.8050 | Good. |
| 5261 | 25 | C. A. Sherman..... | Clyde..... | 0.8400 | Deficient in ethereal oil; inferior. |
| 5262 | 25 | P. Merrill & Son..... | Clyde ..... | 0.8050 | Deficient in ethereal oil; inferior. |
| 5263 | 25 | F. H. Terry ..... | Clyde ..... | 0.8410 | Deficient in ethereal oil; inferior. |
| 5924 | July 17 | A. J. Fellows..... | Chatham ..... | 0.8010 | Good. |
| 5925 | 17 | C. S. Hanks ..... | Hudson ..... | 0.8420 | Deficient in ethereal oil; inferior. |
| 5926 | 17 | B. Stedman ..... | Hudson ..... | 0.8460 | Deficient in ethereal oil; inferior. |
| 5927 | 17 | A. Clark ..... | Poughkeepsie..... | 0.8120 | Deficient in ethereal oil; inferior. |
| 5928 | 17 | G. L. Brown..... | Poughkeepsie..... | 0.7940 | Good. |
| 5929 | 17 | Doty & Humphrey.... | Poughkeepsie..... | 0.8270 | Deficient in ethereal oil; fair. |
| 5930 | 17 | C. S. Bowne..... | Poughkeepsie..... | 0.8080 | Fair. |
| 5931 | 17 | F. R. Bolton ..... | Poughkeepsie..... | 0.8060 | Fair. |
| 5932 | 17 | Wood & Tittamer..... | Poughkeepsie..... | 0.8060 | Fair. |
| 5933 | 17 | C. Westervelt ..... | Poughkeepsie..... | 0.8210 | Deficient in ethereal oil; fair. |
| 5934 | 17 | A. A. & J.W. Goetchins | Poughkeepsie..... | 0.8180 | Good. |
| 5935 | 18 | F. Longhran..... | Fishkill ..... | ..... | Deficient in ethereal oil; inferior. |
| 5936 | 18 | S. Mapes ..... | Fishkill ..... | 0.8060 | Good. |
| 5937 | 18 | H. B. Bevier ..... | Matteawan ..... | 0.8040 | Good. |
| 5938 | 18 | B. F. Greene..... | Matteawan ..... | 0.9020 | Deficient in ethereal oil; inferior. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 18 | J. C. Russell | Sing Sing | 0.8040 | Good. |
| 5942 | | 18 | J. A. Hart | Sing Sing | 0.8060 | Good. |
| 5943 | | 19 | T. A. Walsh | Yonkers | 0.8020 | Good. |
| 5944 | | 19 | G. B. Wray | Yonkers | 0.8180 | Deficient in ethereal oil; inferior. |
| 5945 | | 19 | E. Spock | Yonkers | 0.8000 | Good. |
| 5946 | | 19 | E. A. Houston | Yonkers | 0.8150 | Good. |
| 5947 | | 19 | J. B. Brower | Yonkers | 0.8320 | Deficient in ethereal oil; inferior. |
| 5948 | | 19 | J. L. Lennon | Yonkers | 0.8070 | Deficient in ethereal oil; fair. |
| 5949 | | 19 | A. Van Houten | Yonkers | 0.8040 | Deficient in ethereal oil; fair. |
| 5950 | | 19 | F. Olivet | Mount Vernon | 0.8090 | Deficient in ethereal oil; inferior. |
| 5951 | | 19 | E. E. Penfield | Mount Vernon | 0.8080 | Good. |
| 6435 | October | 18 | N. W. Waldron | Binghamton | 0.8150 | Deficient in ethereal oil; inferior. |
| 6436 | | 18 | H. A. Smith | Binghamton | 0.8750 | Deficient in etherial oil; inferior. |
| 6437 | | 18 | L. C. Mosher | Binghamton | ..... | Consists of spirit of nitrous ether; error in sale. |
| 6438 | | 18 | Dean & Guilfoyle | Binghamton | 0.823 | Deficient in ethereal oil; inferior. |
| 6439 | | 18 | Otis Bros. | Binghamton | 0.807 | Deficient in ethereal oil; inferior. |
| 6440 | | 18 | P. W. Cunningham | Binghamton | 0.807 | Deficient in ethereal oil: inferior. |
| 6441 | | 18 | Williams & Anderson | Binghamton | 0.806 | Deficient in ethereal oil; inferior. |
| 6442 | | 18 | Rourke Bros. | Binghamton | 0.806 | Good. |
| 6443 | | 18 | J. Schnell | Binghamton | 0.8060 | Deficient in ethereal oil; inferior. |
| 6444 | | 19 | E. L. Ostrom | Binghamton | 0.7990 | Deficient in ethereal oil; inferior. |
| 6445 | | 19 | C. H. Loveland | Binghamton | 0.8770 | Deficient in ethereal oil; inferior. |
| 6446 | | 19 | A. H. Gaige | Binghamton | 0.8040 | Deficient in ethereal oil; inferior. |
| 6447 | | 19 | Anderson & Wilcox | Owego | 0.8180 | Deficient in ethereal oil; inferior. |
| 6448 | | 19 | Beach & Parmelee | Owego | 0.8430 | Deficient in ethereal oil; inferior. |
| 6449 | | 19 | E. A. Starkey | Owego | 0.8030 | Deficient in ethereal oil; inferior. |
| 6450 | | 19 | F. M. Humiston | Owego | 0.8120 | Deficient in ethereal oil; inferior. |
| 6451 | | 19 | H. H. Hayes & Son | Waverly | 0.8220 | Deficient in ethereal oil; inferior. |

## Compound Spirit of Ether, U. S. P. — (*Concluded*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Specific gravity at 60 degrees Fahrenheit. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6452 | October 19 | E. J. Neaves..... | Waverly ..... | 0.8710 | Deficient in ethereal oil; inferior. |
| 6453 | 19 | A. Mullock..... | Waverly ..... | 0.8250 | Deficient in ethereal oil; inferior. |
| 6454 | 20 | C. H. Young..... | Hornellsville..... | 0.8080 | Good. |
| 6455 | 20 | G. T. Reed & Co..... | Hornellsville..... | 0.8110 | Good. |
| 6456 | 20 | Robertson & Luther ... | Hornellsville..... | 0.8050 | Deficient in ethereal oil; inferior. |
| 6457 | 20 | G. T. Reed & Co..... | Hornellsville..... | 0.8010 | Good. |
| 6458 | 20 | H. G. Pierson..... | Hornellsville..... | 0.8100 | Deficient in ethereal oil; inferior. |
| 6459 | 20 | A. S. Van Winkle.... | Hornellsville..... | 0.8230 | Deficient in ethereal oil; inferior. |
| 6460 | 20 | J. W. Bachman ..... | Hornellsville..... | 0.8080 | Deficient in ethereal oil; inferior. |
| 6461 | 20 | Heermans & Co..... | Corning ..... | 0.7990 | Deficient in ethereal oil; inferior. |
| 6462 | 20 | A. B. Holmes ..... | Corning ..... | 0.8180 | Deficient in ethereal oil; inferior. |
| 6463 | 20 | R. W. Terbell ..... | Corning ..... | 0.9030 | Deficient in ethereal oil; inferior. |
| 6464 | 20 | W. J. Marsh ..... | Corning ..... | 0.8640 | Deficient in ethereal oil; inferior. |
| 6465 | 20 | Cole & Mathews ..... | Corning ..... | 0.8430 | Deficient in ethereal oil; inferior. |
| 6466 | 20 | C. S. & F. Ingraham. | Elmira..... ..... | 0.8250 | Deficient in ethereal oil; inferior. |
| 6467 | 20 | Wm. R. W. Pound .. | Elmira..... | 0.8250 | Deficient in ethereal oil; inferior. |
| 6468 | 20 | T. S. Flood..... | Elmira..... | 0.8490 | Deficient in ethereal oil; inferior. |
| 6469 | 20 | J. Meyer, Jr ..... | Elmira..... | 0.8370 | Deficient in ethereal oil; inferior. |
| 6470 | 20 | Gerity Bros ..... | Elmira..... | 0.8480 | Deficient in ethereal oil; inferior. |
| 6471 | 20 | C. W. Biggs & Co.... | Elmira..... | 0.8480 | Deficient in ethereal oil; inferior. |

| | | | | | |
|---|---|---|---|---|---|
| 6478 | 21 | A. B. Brooks .... ... | Ithaca ..... | 0.8600 | Deficient in ethereal oil; inferior. |
| 6479 | 21 | S. Grant ..... | Ithaca ..... | 0.7850 | Good. |
| 6480 | 21 | Platt & Colt..... | Ithaca ..... | 0.8040 | Deficient in ethereal oil; inferior. |
| 6481 | 21 | J. B. Todd ..... | Ithaca ..... | 0.9120 | Deficient in ethereal oil; inferior. |
| 6482 | 21 | Baker & Warren..... | Ithaca ..... | 0.8610 | Deficient in ethereal oil; inferior. |
| 6483 | 21 | McClune & Fisher ... | Ithaca ..... | 0.8580 | Deficient in ethereal oil; inferior. |
| 6484 | 21 | Sager & Jennings . ... | Cortland ..... | 0.8360 | Deficient in ethereal oil; inferior. |
| 6485 | 21 | C. F. Brown..... ... | Cortland ..... | 0.8120 | Deficient in ethereal oil; inferior. |
| 6486 | 21 | Fitz, Boynton & Co... | Cortland ..... | 0.8450 | Deficient in ethereal oil; inferior. |
| 6487 | 21 | F. E. Brogden.... ... | Cortland ..... | 0.8770 | Deficient in ethereal oil; inferior. |
| 6488 | 21 | F. J. Graham ..... | Cortland ..... ... | 0.8470 | Deficient in ethereal oil; inferior. |
| 6489 | 21 | G. W. Bradford ..... | Cortland ..... ... | 0.8210 | Deficient in ethereal oil; inferior. |
| 6490 | 21 | C. F. Brown..... | Cortland ..... ... | 0.8260 | Deficient in ethereal oil; inferior. |
| 6491 | 23 | D. H. Van Heusen .... | Johnstown ..... | 0.8070 | Fair. |
| 6492 | 23 | W. B. Van Vliet..... | Johnstown ..... | 0.8130 | Deficient in ethereal oil; inferior. |
| 6493 | 23 | Sutliff & Livingston... | Johnstown ..... | 0.8010 | Good. |
| 6494 | 23 | J. F. Cahill ..... | Johnstown ..... | 0.8010 | Good. |
| 6495 | 23 | C. E. Purington & Co.. | Johnstown ..... | 0.7910 | Good. |
| 6496 | 23 | A. M. Simmons ... ... | Gloversville ..... | 0.8890 | Deficient in ethereal oil; inferior. |

**Stronger Ether** — (*Aether Fortior, U. S. P.*).

One hundred and forty-four samples examined of which there were of good quality, ninety-one; fair, seven; and inferior, forty-six.

Two qualities of ether are recognized by the U. S. P., viz., "ether," specific gravity about 0.750, and containing about twenty-six per cent of alcohol, and "stronger ether," with a specific gravity not higher than 0.725, at fifteen degrees C., and containing about six per cent of alcohol. The specific gravity of the samples examined varied from 0.724 to 0.771. The term "sulphuric ether" is not recognized in the pharmacopoeia. Stronger ether is generally used as an anaesthetic, and ought always to be kept in stock by the pharmacist. When it is called for by its officinal name in full it ought always to be supplied, and the substitution of common ether or the so-called "washed ether" of the trade is entirely inexcusable, and betokens great carelessness or ignorance on the part of the seller. Particulars concerning these samples are appended:

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Specific gravity at 59 degrees Fahrenheit | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4939 | March 21 | Brown & Dawson | Syracuse | 0.727 | Good. |
| 4940 | 21 | Dwight & Reed | Syracuse | 0.750 | Inferior. |
| 4941 | 21 | Fox & Dygert | Syracuse | 0.762 | Inferior. |
| 4942 | 21 | Fry & Martin | Syracuse | 0.728 | Good. |
| 4943 | 21 | P. L. Ryan & Co. | Syracuse | 0.726 | Good. |
| 4944 | 21 | F. C. Joslyn & Co | Syracuse | 0.728 | Good. |
| 4945 | 21 | E. B. Covert | Syracuse | 0.749 | Fair. |
| 4946 | 21 | T. W. Dalton & Co. | Syracuse | 0.759 | Inferior. |
| 4947 | 21 | R. E. Smith | Syracuse | 0.728 | Good. |
| 4948 | 21 | Hanna & Coling | Syracuse | 0.727 | Good. |
| 4949 | 21 | W. B. Bissell | Syracuse | 0.727 | Good. |
| 4950 | 21 | E. L Gleason | Syracuse | 0.758 | Inferior. |
| 4951 | 21 | C. W. Snow & Co. | Syracuse | 0.763 | Inferior. |
| 4952 | 21 | O. B. Heyne | Syracuse | 0.752 | Inferior. |
| 4953 | 21 | G. W. Holloway | Syracuse | 0.726 | Good. |
| 4954 | 21 | S. D. De Voe | Syracuse | 0.752 | Inferior. |
| 4955 | 21 | R. Bodden | Syracuse | 0.727 | Good. |
| 4956 | 21 | W. B. Fuller | Syracuse | 0.725 | Good. |
| 4957 | 21 | W. D. Tallman | Syracuse | 0.748 | Inferior. |
| 4958 | 21 | F. C. Joslyn & Co. | Syracuse | 0.728 | Good. |
| 4959 | 22 | Myers Bros | Oneida | 0.760 | Inferior. |
| 4960 | 22 | Hernan & Campbell | Oneida | 0.726 | Good. |
| 4961 | 23 | F. J. Hager & Co | Rome | 0.727 | Good. |

## Stronger Ether, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Specific gravity at 59 degrees Fahrenheit. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4962 | March 23 | J. G. Bissell | Rome | 0.727 | Good. |
| 4963 | 24 | F. T. Ray & Co. | Utica | 0.752 | Inferior. |
| 4964 | 24 | G. B. McMillan | Utica | 0.759 | Inferior. |
| 4965 | 24 | Howarth & Ballard | Utica | 0.730 | Good. |
| 4966 | 24 | J. W. Cone | Utica | 0.727 | Good. |
| 4967 | 24 | G. L. Hill | Utica | 9.726 | Good. |
| 4968 | 24 | W. M. Blaikie | Utica | 0.728 | Good. |
| 4969 | 24 | Luce & Plumb | Utica | ..... | Good. |
| 4970 | 24 | F. J. Gschwind | Utica | 0.750 | Inferior. |
| 4971 | 24 | J. B. Williams | Utica | 0.747 | Inferior. |
| 4972 | 25 | G. H. Ingraham | Amsterdam | 0.726 | Good. |
| 4973 | 25 | Bradford & Dickinson | Amsterdam | 0.726 | Good. |
| 4974 | 25 | E. W. Clark | Amsterdam | 0.731 | Fair. |
| 4975 | 25 | C. W. Stricker | Amsterdam | 0.728 | Good. |
| 4976 | 25 | Powell & Gilbert | Amsterdam | 0.756 | Inferior. |
| 4977 | 25 | N. C. Becker | Amsterdam | 0.755 | Inferior. |
| 4978 | 25 | J. V. Riggs | Amsterdam | 0.727 | Good. |
| 4979 | 25 | J. A. Barkhuff | Amsterdam | 0.731 | Good. |
| 4980 | 25 | C. W. Horstmann | Schenectady | 0.728 | Good. |
| 4981 | 25 | E. Rosa | Schenectady | 0.727 | Good. |
| 4982 | 25 | G. Steinfuhrer | Schenectady | 0.727 | Good. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5178 | May | 17 | F. S. Smith | Auburn | 0.730 | |
| 5179 | | 17 | C. B. Sears | Auburn | 0.726 | Good. |
| 5180 | | 17 | A. H. Hamilton | Auburn | 0.748 | Inferior. |
| 5181 | | 17 | L. Hunt | Auburn | 0.726 | Good. |
| 5182 | | 17 | C. H. Sager Co | Auburn | 0.726 | Good. |
| 5183 | | 17 | H. L. Adams | Auburn | 0.750 | Inferior. |
| 5184 | | 17 | T. B. Sharp & Sons | Seneca Falls | 0.760 | Inferior. |
| 5185 | | 17 | P. Van Kleeck | Seneca Falls | 0.757 | Inferior. |
| 5186 | | 17 | R. G. Smith & Sons | Waterloo | 0.761 | Inferior. |
| 5187 | | 18 | M. Barkman | Geneva | 0.729 | Good. |
| 5188 | | 18 | J. A. Zobrist | Geneva | 0.766 | Inferior. |
| 5189 | | 18 | Haviland & Hennip | Geneva | 0.727 | Good. |
| 5190 | | 18 | E. W. Simmons | Canandaigua | 0.728 | Good. |
| 5191 | | 18 | A. S. Newman | Canandaigua | 0.727 | Good. |
| 5192 | | 18 | Pierson & Benham | Canandaigua | 0.735 | Fair. |
| 5193 | | 18 | A. D. Paul & Co. | Canandaigua | 0.746 | Inferior. |
| 5194 | | 19 | Curran & Goler | Rochester | 0.756 | Inferior. |
| 5195 | | 19 | Paine Drug Co. | Rochester | 0.765 | Inferior. |
| 5196 | | 19 | C. H. Althaus | Rochester | 0.743 | Inferior. |
| 5197 | | 19 | Scofield & Barker | Rochester | 0.725 | Good. |
| 5198 | | 20 | A. R. Mandeville & Co. | Rochester | 0.725 | Good. |
| 5199 | | 20 | A. M. Dixon | Rochester | 0.725 | Good. |
| 5200 | | 20 | Wm. W. Steele | Rochester | 0.728 | Good. |
| 5201 | | 20 | Ballard & Hurlburt | Rochester | 0.757 | Inferior. |
| 5202 | | 23 | C. H. Gauger | Rochester | 0.728 | Good. |
| 5203 | | 23 | F. S. Mason | Rochester | 0.726 | Good. |
| 5204 | | 23 | F. L. Zimmerman | Rochester | 0.735 | Fair. |
| 5205 | | 24 | N. R. Gardner | Palmyra | 0.728 | Good. |
| 5206 | | 24 | R. E. Morse & Son | Newark | 0.726 | Good. |
| 5207 | | 24 | Moore & Moore | Lyons | 0.728 | Good. |
| 5208 | | 25 | Freeman & Martin | Clyde | 0.727 | Good. |

## Stronger Ether, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Specific gravity at 59 degrees Fahrenheit | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5908 | July 17 | A. J. Fellows | Chatham | 0.725 | Good. |
| 5909 | 17 | W. H. Barnes | Chatham | 0.725 | Good. |
| 5910 | 17 | C. S. Hanks | Hudson | 0.755 | Inferior. |
| 5911 | 17 | Van Tassel & Tobey | Hudson | 0.725 | Good. |
| 5912 | 17 | J. M. Johnson | Hudson | 0.726 | Good. |
| 5913 | 17 | Rice Bros. | Hudson | 0.725 | Good. |
| 5914 | 17 | B. Stedman | Hudson | 0.725 | Good. |
| 5915 | 17 | Wardle & Son | Hudson | 0.726 | Good. |
| 5916 | 17 | J. V. Humphrey | Poughkeepsie | 0.725 | Good. |
| 5917 | 17 | Barnes Bros. | Poughkeepsie | 0.725 | Good. |
| 5918 | 17 | A. A. & J. W. Goetchins | Poughkeepsie | 0.760 | Inferior. |
| 5919 | 18 | F. Loughran | Fishkill | 0.740 | Inferior. |
| 5920 | 18 | S. Mapes | Fishkill | 0.728 | Good. |
| 5921 | 18 | Griffin & Lent | Peekskill | 0.745 | Inferior. |
| 5922 | 18 | J. C. Russell | Sing Sing | 0.728 | Good. |
| 5923 | 19 | J. W. Wickersham | Yonkers | 0.726 | Good. |
| 6384 | October 18 | L. B. Campbell | Binghamton | 0.731 | Fair. |
| 6385 | 18 | N. W. Waldron | Binghamton | 0.726 | Good. |
| 6386 | 18 | H. A. Smith | Binghamton | 0.726 | Good. |
| 6387 | 18 | Otis Bros | Binghamton | 0.727 | Good. |
| 6388 | 18 | Rourke Bros. | Binghamton | 0.725 | Good. |
| 6389 | 18 | J. Schnell | Binghamton | 0.724 | Good. |
| 6390 | 18 | E. J. Bodle & Co | Binghamton | 0.726 | Good. |

| | | | | | |
|---|---|---|---|---|---|
| 0000 | 19 | C. H. Loveland | Owego | 0.730 | Good. |
| 6393 | 19 | Anderson & Wilcox | Owego | 0.725 | Good. |
| 6394 | 19 | J. C. Kenyon | Waverly | 0.753 | Inferior. |
| 6395 | 19 | H. H. Hayes & Son | Waverly | 0.757 | Inferior. |
| 6396 | 19 | E. J. Neaves | Waverly | 0.771 | Inferior. |
| 6397 | 19 | J. C. Van Atta | Waverly | 0.728 | Good. |
| 6398 | 19 | A. Mullock | Hornellsville | 0.730 | Good. |
| 6399 | 20 | G. T. Reed & Co | Hornellsville | 0.750 | Inferior. |
| 6400 | 20 | Robertson & Luther | Hornellsville | 0.724 | Good. |
| 6401 | 20 | C. H. Young | Hornellsville | 0.730 | Good. |
| 6402 | 20 | G. T. Reed & Co | Hornellsville | 0.763 | Inferior. |
| 6403 | 20 | H. G. Pierson | Hornellsville | 0.729 | Good. |
| 6404 | 20 | A. S. Van Winkle | Hornellsville | 0.760 | Inferior. |
| 6405 | 20 | J. W. Bachman | Hornellsville | 0.729 | Good. |
| 6406 | 20 | Heermans & Co | Corning | 0.727 | Good. |
| 6407 | 20 | W. J. Marsh | Corning | 0.724 | Good. |
| 6408 | 20 | Wm. R. W. Pound | Elmira | 0.726 | Good. |
| 6409 | 20 | M. H. Davis | Elmira | 0.750 | Inferior. |
| 6410 | 20 | T. S. Flood | Elmira | 0.749 | Inferior. |
| 6411 | 20 | C. P. Petit | Elmira | 0.750 | Inferior. |
| 6412 | 20 | Gerity Bros | Elmira | 0.727 | Good. |
| 6413 | 20 | C. W. Briggs & Co | Elmira | 0.726 | Good. |
| 6414 | 20 | F. B. Parke | Elmira | 0.726 | Good. |
| 6415 | 20 | A. S. Hamilton | Elmira | 0.729 | Good. |
| 6416 | 21 | White & Burdick | Ithaca | 0.729 | Good. |
| 6417 | 21 | A. B. Brooks | Ithaca | 0.725 | Good. |
| 6418 | 21 | Platt & Colt | Ithaca | 0.724 | Good. |
| 6419 | 21 | Baker & Warren | Ithaca | 0.725 | Good. |
| 6420 | 21 | McClune & Fisher | Ithaca | 0.727 | Good. |
| 6421 | 21 | Sager & Jennings | Cortland | | |

## Stronger Ether, U. S. P.—(*Concluded*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Specific gravity at 59 degrees Fahrenheit. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6422 | October 21 | C. F. Brown | Cortland | 0.748 | Inferior. |
| 6423 | 21 | Fitz, Boynton & Co | Cortland | 0.761 | Inferior. |
| 6424 | 21 | F. E. Brogden | Cortland | 0.729 | Good. |
| 6425 | 21 | F. I. Graham | Cortland | 0.729 | Good. |
| 6426 | 21 | C. F. Brown | Cortland | 0.727 | Good. |
| 6427 | 23 | D. H. Van Heusen | Johnstown | 0.751 | Inferior. |
| 6428 | 23 | Sutliff & Livingston | Johnstown | 0.724 | Good. |
| 6429 | 23 | J. F. Cahill | Johnstown | 0.749 | Inferior. |
| 6430 | 23 | J. A. Miller & Co | Gloversville | 0.743 | Inferior. |
| 6431 | 23 | J. B. Stone | Gloversville | 0.753 | Inferior. |
| 6432 | 23 | Houck & Patrick | Gloversville | 0.724 | Good. |
| 6433 | 23 | G. Rowe | Gloversville | 0.725 | Good. |
| 6434 | 33 | A. M. Simmons | Gloversville | 0.727 | Good. |

*Fifteen samples of the powdered drug examined, all of which were of good quality, as follows:*

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4428 | February 25 | A. B. Huested & Co | Albany | Good. |
| 4429 | 27 | Estate of J. E. Miller | Albany | Good. |
| 4430 | 27 | S. C. Hodgkins | Albany | Good. |
| 4431 | 27 | L. Sautter | Albany | Good. |
| 4432 | 27 | C. Van Loon | Albany | Good. |
| 4433 | 27 | T. W. Nellis | Albany | Good. |
| 4434 | 27 | Wm. Sautter | Albany | Good. |
| 4435 | 27 | F. H. Bassett | Albany | Good. |
| 4436 | 28 | J. D. Palmatier | Albany | Good. |
| 4437 | 28 | A. R. Miller | Albany | Good. |
| 4438 | 28 | S. C. Bradt & Son | Albany | Good. |
| 4439 | 28 | C. H. Gaus | Albany | Good. |
| 4440 | 28 | E. F. Hunting | Albany | Good. |
| 4441 | 28 | F. W. Schaefer | Albany | Good. |
| 4442 | 28 | M. W. Macomber | Albany | Good. |

**Diluted Hydrochloric Acid**—(*Acidum Hydrochloricum Dilutum, U. S. P.*).

Two hundred and thirty-two samples examined, of which there were of good quality, 151; fair, forty-five; inferior, thirty-two; and of excessive strength, four. The pharmacopoeia requires ten per cent of the absolute acid. The samples varied from 1.00 to 13.10 per cent. In rating them those containing from 9 to 12.5 per cent have been classed as good; 7.5 to 8.9, fair; below 7.5, inferior; and over 12.5 excessive strength. Particulars concerning the samples are appended:

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent. absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4475 | March 16 | F. W. Schaefer | Albany | 9.60 | Good. |
| 4476 | 16 | E. F. Hunting | Albany | 10.00 | Good. |
| 4477 | 16 | C. H. Smith & Co | Albany | 9.70 | Good. |
| 4478 | 16 | C. H. Gaus | Albany | 9.50 | Good. |
| 4479 | 16 | Wm. McAllaster | Albany | 10.20 | Good. |
| 4480 | 16 | Wm. McAllaster | Albany | 9.70 | Good. |
| 4481 | 16 | J. D. Palmatier | Albany | 9.20 | Good. |
| 4482 | 16 | A. B. Huested & Co | Albany | 9.80 | Good. |
| 4483 | 16 | T. W. Nellis | Albany | 10.20 | Good. |
| 4484 | 16 | Wm. Sautter | Albany | 10.60 | Good. |
| 4485 | 16 | F. H. Bassett | Albany | 9.00 | Good. |
| 4486 | 16 | Estate of J. E. Miller | Albany | 8.80 | Fair. |
| 4516 | 17 | A. R. Miller | Albany | 10.10 | Good. |
| 4517 | 17 | S. C. Bradt & Son | Albany | 8.50 | Fair. |
| 4518 | 18 | L. Sautter | Albany | 9.30 | Good. |
| 4519 | 18 | W. E. Masten | Albany | 8.00 | Fair. |
| 4520 | 18 | L. H. Gaus | Albany | 10.60 | Good. |
| 4521 | 18 | Turner Bros | Albany | 11.40 | Good. |
| 4522 | 18 | A. Scholz | Albany | 8.20 | Fair. |
| 4523 | 18 | J. W. Heller & Co | Albany | 10.30 | Good. |
| 4551 | 20 | T. J. Lewi | Albany | 11.10 | Good. |
| 4552 | 20 | A. Gilbert | Albany | 8.00 | Fair. |
| 4553 | 20 | M. W. Macomber | Albany | 10.00 | Good. |

## Diluted Hydrochloric Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4554 | March 20 | J. De P. Townsend | Albany | 8.30 | Fair. |
| 4555 | 20 | H. Miller | Albany | 9.20 | Good. |
| 4732 | 22 | Harp & Lounsbery | Oneida | 8.90 | Fair. |
| 4733 | 22 | J. H. Cool | Oneida | 11.70 | Good. |
| 4734 | 23 | F. J. Hager & Co. | Rome | 9.30 | Good. |
| 4735 | 23 | J. G. Bissel & Co | Rome | 9.10 | Good. |
| 4736 | 24 | H. K. Preston | Utica | 10.40 | Good. |
| 4737 | 25 | G. H. Ingraham | Amsterdam | 7.60 | Fair. |
| 4738 | 25 | M. W. Reid | Amsterdam | 11.20 | Good. |
| 4739 | 25 | C. W. Striker | Amsterdam | 9.70 | Good. |
| 4740 | 25 | J. V. Riggs | Amsterdam | 6.60 | Inferior. |
| 4741 | 25 | J. A. Barkhuff | Amsterdam | 10.60 | Good. |
| 4742 | 25 | C. H. Horstmann | Schenectady | 9.10 | Good. |
| 4743 | 25 | G. Steinfuhrer | Schenectady | 9.90 | Good. |
| 4744 | 25 | J. T. Lyon | Schenectady | 10.70 | Good. |
| 4745 | 25 | Wm. Sautter | Schenectady | 10.60 | Good. |
| 5780 | May 17 | F. S. Smith | Auburn | 6.10 | Inferior. |
| 5781 | 17 | A. H. Hamilton | Auburn | 10.30 | Good. |
| 5782 | 17 | J. L. Elliott | Auburn | 7.80 | Fair. |

| | | | | | |
|---|---|---|---|---|---|
| 5787 | 17 | H. L. Adams | Auburn | 8.80 | Fair. |
| 5788 | 17 | T. B. Sharp & Sons | Seneca Falls | 8.20 | Fair. |
| 5789 | 17 | Casey & Seaman | Seneca Falls | 8.50 | Fair. |
| 5790 | 17 | Crobaugh & Marsden | Waterloo | 4.70 | Inferior. |
| 5791 | 18 | M. Barkman | Geneva | 9.60 | Good. |
| 5792 | 18 | J. A. Zobrist | Geneva | 2.00 | Inferior. |
| 5793 | 18 | W. H. Partridge | Geneva | 11.40 | Good. |
| 5794 | 18 | Haviland & Hennip | Geneva | 8.90 | Fair. |
| 5795 | 18 | A. L. Sweet | Geneva | * | Inferior. |
| 5796 | 18 | E. W. Simmons | Canandaigua | 11.90 | Good. |
| 5797 | 18 | Pierson & Benham | Canandaigua | 11.80 | Good. |
| 5798 | 18 | A. D. Paul & Co | Canandaigua | 3.50 | Inferior. |
| 5799 | 19 | Curran & Goler | Rochester | 10.20 | Good. |
| 5800 | 19 | O. J. & J. A. Bryan | Rochester | 10.70 | Good. |
| 5801 | 19 | Paine Drug Co | Rochester | 10.50 | Good. |
| 5802 | 19 | C. H. Althaus | Rochester | 9.50 | Good. |
| 5803 | 19 | Scofield & Barker | Rochester | 11.30 | Good. |
| 5804 | 20 | Hyde & Paige | Rochester | 10.60 | Good. |
| 5805 | 20 | Dake Bros. Drug Co | Rochester | 10.30 | Good. |
| 5806 | 20 | A. R. Mandeville & Co. | Rochester | 8.90 | Fair. |
| 5807 | 20 | E. Fellman | Rochester | 9.70 | Good. |
| 5808 | 20 | W. W. Steele | Rochester | 10.40 | Good. |
| 5809 | 20 | Ballard & Hurlburt | Rochester | 10.40 | Good. |
| 5810 | 22 | W. H. Crippen | Rochester | 12.20 | Good. |
| 5811 | 22 | A. B. Chamberlain | Rochester | 12.00 | Good. |
| 5812 | 22 | R. J. Strasenburgh | Rochester | 11.20 | Good. |
| 5813 | 22 | J. K. Post & Co. | Rochester | 9.90 | Good. |
| 5814 | 22 | E. H. Davis & Co | Rochester | 10.10 | Good. |
| 5815 | 22 | R. W. Chambers & Co. | Rochester | 9.50 | Good. |
| 5816 | 22 | N. Barrowclough | Rochester | 9.50 | Good. |

* Acidity equivalent to 8.4 per cent absolute hydrochloric acid; yellowish color. Contains sulphuric acid.

## Diluted Hydrochloric Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5817 | May 22 | J. P. Irish | Rochester | 3.20 | Inferior. |
| 5818 | 22 | G. Hahn | Rochester | 10.00 | Good. |
| 5819 | 22 | S. A. Merriam | Rochester | 10.80 | Good. |
| 5820 | 22 | L. Wyeth | Rochester | 7.10 | Inferior. |
| 5821 | 22 | L. Klinzing | Rochester | 12.00 | Good. |
| 5822 | 22 | Wm. H. Gilmore | Rochester | 6.80 | Inferior. |
| 5823 | 22 | G. Mannel | Rochester | 10.20 | Good. |
| 5824 | 22 | F. Kobbe | Rochester | 8.90 | Fair. |
| 5825 | 22 | G. W. Johns | Rochester | 7.70 | Fair. |
| 5826 | 22 | C. W. Waegner | Rochester | 8.50 | Fair. |
| 5827 | 22 | M. Levin | Rochester | 11.00 | Good. |
| 5828 | 22 | W. W. Steele | Rochester | 10.40 | Good. |
| 5829 | 23 | J. C. Lung | Rochester | 2.80 | Inferior. |
| 5830 | 23 | C. H. Gauger | Rochester | 10.00 | Good. |
| 5831 | 23 | T. M. Stewart | Rochester | 10.20 | Good. |
| 5832 | 23 | Craig & Vanderbelt | Rochester | 7.70 | Fair. |
| 5833 | 23 | C. F. Maid | Rochester | 11.60 | Good. |
| 5834 | 23 | F. W. Jackson & Co. | Rochester | 6.80 | Inferior. |
| 5835 | 23 | A. C. Dempsey | Rochester | 11.40 | Good. |
| 5836 | 23 | W. A. Barber | Rochester | 9.20 | Good. |
| 5837 | 23 | J. M. Schmitt | Rochester | 9.40 | Good. |
| 5838 | 23 | F. S. Mason | Rochester | 10.20 | Good. |
| 5839 | 23 | J. F. Burkard | Rochester | 11.00 | Good. |

| | | | | | |
|---|---|---|---|---|---|
| 5840 | 24 | J. W. Rashdobe | Palmyra | 11.20 | Good. |
| 5841 | 24 | N. R. Gardner | Palmyra | 7.20 | Inferior. |
| 5842 | 24 | B. H. Davis & Co | Palmyra | 4.30 | Inferior. |
| 5843 | 24 | R. E. Morse & Son | Newark | 9.60 | Good. |
| 5844 | 24 | M. H. Dillenbeck | Lyons | 10.30 | Good. |
| 5845 | 24 | G. W. Getman | Lyons | 8.60 | Fair. |
| 5846 | 24 | Moore & Moore | Lyons | 9.10 | Good. |
| 5847 | 24 | G. W. Koester | Lyons | 8.00 | Fair. |
| 5848 | 25 | C. A. Sherman | Clyde | 10.00 | Good. |
| 5849 | 25 | Freeman & Martin | Clyde | 9.70 | Good. |
| 5850 | 25 | P. Merrill & Son | Clyde | 11.40 | Good. |
| 5851 | 25 | F. H. Terry | Clyde | 9.00 | Good. |
| 6230 | 17 | A. J. Fellows | Chatham | 10.60 | Good. |
| 6231 | 17 | H. J. Baringer, Jr | Chatham | 10.70 | Good. |
| 6232 | 17 | W. H. Barnes | Chatham | 9.00 | Good. |
| 6233 | 17 | C. S. Hanks | Hudson | 9.00 | Good. |
| 6234 | 17 | A. McKinstry & Son | Hudson | 8.90 | Fair. |
| 6235 | 17 | Van Tassel & Tobey | Hudson | 6.30 | Inferior. |
| 6236 | 17 | J. M. Johnson | Hudson | 10.80 | Good. |
| 6237 | 17 | Rice Bros | Hudson | 9.50 | Good. |
| 6238 | 17 | B. Stedman | Hudson | 9.30 | Good. |
| 6239 | 17 | Wardle & Son | Hudson | 10.20 | Good. |
| 6240 | 17 | G. L. Brown | Poughkeepsie | 7.90 | Fair. |
| 6241 | 17 | J. V. Humphrey | Poughkeepsie | 10.70 | Good. |
| 6242 | 17 | Doty & Humphrey | Poughkeepsie | 10.70 | Good. |
| 6243 | 17 | C. S. Bowne | Poughkeepsie | 10.00 | Good. |
| 6244 | 17 | F. R. Bolton | Poughkeepsie | 9.40 | Good. |
| 6245 | 17 | Strickler & Schwartz | Poughkeepsie | 11.40 | Good. |
| 6246 | 17 | Wood & Tittamer | Poughkeepsie | 10.00 | Good. |
| 6247 | 17 | Barnes Bros | Poughkeepsie | 10.30 | Good. |
| 6248 | 17 | J. Wilkinson | Poughkeepsie | 8.60 | Fair. |

July

40

## Diluted Hydrochloric Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6249 | July 17 | T. W. Roberts | Poughkeepsie | 7.20 | Inferior. |
| 6250 | 17 | A. A. & J. W. Goetchins | Poughkeepsie | 1.00 | Inferior. |
| 6251 | 18 | F. Loughran | Fishkill | 7.40 | Inferior. |
| 6252 | 18 | S. Mapes | Fishkill | 7.30 | Inferior. |
| 6253 | 18 | Merritt's Drug Store | Fishkill | 10.29 | Good. |
| 6254 | 18 | B. F. Greene | Matteawan | 9.30 | Good. |
| 6255 | 18 | H. Tate | Peekskill. | 10.10 | Good. |
| 6256 | 18 | Griffin & Lent | Peekskill | 6.10 | Inferior. |
| 6257 | 18 | F. A. Grenzebach | Peekskill | 10.90 | Good. |
| 6258 | 18 | H. H. Lane | Peekskill | 9.00 | Good. |
| 6259 | 18 | T. A. Whitney | Peekskill | 7.20 | Inferior. |
| 6260 | 18 | J. C. Russell | Sing Sing | 1.90 | Inferior. |
| 6261 | 18 | J. A. Hart | Sing Sing | 9.20 | Good. |
| 6262 | 18 | S. O. Washburne | Sing Sing | 9.40 | Good. |
| 6263 | 19 | J. Stahl, Jr | Yonkers | 13.10 | Excessive strength. |
| 6264 | 19 | T. A. Walsh | Yonkers | 10.60 | Good. |
| 6265 | 19 | G. B. Wray | Yonkers | 10.00 | Good. |
| 6266 | 19 | E. Spock | Yonkers | 9.30 | Good. |
| 6267 | 19 | J. W. Wickersham | Yonkers | 8.40 | Fair. |

| | | | | | | |
|---|---|---|---|---|---|---|
| [illegible] | | 19 | F. Oliver..... | [illegible]..... | 13.80 | [illegible] |
| 6274 | | 19 | C. E. Penfield..... | Mt. Vernon..... | 12.70 | Excessive strength. |
| 6275 | | 19 | E. Laviolette..... | Mt. Vernon..... | 8.90 | Fair. |
| 6276 | | 19 | A. Richter & Co..... | Mt. Vernon... .... | 8.80 | Fair. |
| 6277 | | 19 | A. H. Lins ..... | Mt. Vernon..... .. | 10.20 | Good. |
| 6278 | | 19 | F. W. Carlisle ..... | Mt. Vernon..... | 6.00 | Inferior. |
| 6279 | | 19 | Gill's Pharmacy,..... | Mt. Vernon..... | 12.50 | Good. |
| 6280 | | 19 | F. H. Nowill..... | White Plains..... | 9.40 | Good. |
| 6281 | | 19 | J. W. Stafford..... | White Plains..... | 10.10 | Good. |
| 6626 | October | 18 | L. B. Campbell..... | Binghamton ..... | 7.30 | Inferior. |
| 6627 | | 18 | N. W. Waldron..... | Binghamton ..... | 11.50 | Good. |
| 6628 | | 18 | H. A. Smith ..... | Binghamton ..... | 11.30 | Good. |
| 6629 | | 18 | Dean & Guilfoyle ..... | Binghamton ..... | 8.00 | Fair. |
| 6630 | | 18 | Otis Bros ..... | Binghamton ..... | 9.60 | Good. |
| 6631 | | 18 | P. W. Cunningham..... | Binghamton ..... | 9.10 | Good. |
| 6632 | | 18 | Williams & Anderson..... | Binghamton ..... | 12.60 | Excessive strength. |
| 6633 | | 18 | Rourke Bros..... | Binghamton ..... | 9.80 | Good. |
| 6634 | | 18 | J. Schnell ..... | Binghamton ..... | 8.40 | Fair. |
| 6635 | | 18 | E. J. Bodle & Co.. ..... | Binghamton ..... | 6.80 | Inferior. |
| 6636 | | 19 | E. L. Ostrom ..... | Binghamton ..... | 8.50 | Fair. |
| 6637 | | 19 | C. H. Loveland ..... | Binghamton ..... | 2.40 | Inferior. |
| 6638 | | 19 | A. H. Gaige ..... | Binghamton .... ... | 9.30 | Good. |
| 6639 | | 19 | Anderson & Wilcox..... | Owego..... | 3.20 | Inferior. |
| 6640 | | 19 | Beach & Parmelee .... ..... | Owego..... | 9.80 | Good. |
| 6641 | | 19 | J. C. Kenyon..... | Owego..... | 8.00 | Fair. |
| 6642 | | 19 | E. A. Starkey..... | Owego..... | 8.00 | Fair. |
| 6643 | | 19 | F. M. Humiston..... | Owego..... | 10.40 | Good. |
| 6644 | | 19 | H. H. Hayes & Son ..... | Waverly ..... | 6.30 | Inferior. |
| 6645 | | 19 | E. J. Neaves ..... | Waverly ..... | 6.50 | Inferior. |
| 6646 | | 19 | J. C. Van Atta ..... | Waverly ..... | 12.30 | Good. |

## Diluted Hydrochloric Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6647 | October 19 | A. Mullock | Waverly | 9.50 | Good. |
| 6648 | 20 | C. H. Young | Hornellsville | 12.30 | Good. |
| 6649 | 20 | G. T. Reed & Co. | Hornellsville | 8.50 | Fair. |
| 6650 | 20 | Robertson & Luther | Hornellsville | 11.20 | Good. |
| 6651 | 20 | C. H. Young | Hornellsville | 11.40 | Good. |
| 6652 | 20 | G. T. Reed & Co. | Hornellsville | 10.70 | Good. |
| 6653 | 20 | H. G. Pierson | Hornellsville | 8.30 | Fair. |
| 6654 | 20 | J. W. Bachman | Hornellsville | 8.10 | Fair. |
| 6655 | 20 | Heermans & Co. | Corning | 8.80 | Fair. |
| 6656 | 20 | A. B. Holmes | Corning | 11.90 | Good. |
| 6657 | 20 | R. M. Terbell | Corning | 7.90 | Fair. |
| 6658 | 20 | W. J. Marsh | Corning | 7.50 | Fair. |
| 6659 | 20 | Cole & Mathews | Corning | 9.40 | Good. |
| 6660 | 20 | C. S. & F. Ingraham. | Elmira | 8.10 | Fair. |
| 6661 | 20 | Wm. R. W. Pound | Elmira | 10.10 | Good. |
| 6662 | 20 | E. A. Smith | Elmira | 9.90 | Good. |
| 6663 | 20 | T. S. Flood | Elmira | 10.20 | Good. |
| 6664 | 20 | J. Meyer, Jr. | Elmira | 11.00 | Good. |
| 6665 | 20 | Gerity Bros | Elmira | 7.10 | Inferior. |
| 6666 | 20 | C. W. Briggs & Co. | Elmira | 6.90 | Inferior. |
| [illegible] | 20 | F. B. Parks | Elmira | 7.50 | Fair. |

| | | | | | |
|---|---|---|---|---|---|
| 6673 | 21 | A. B. Brooks | Ithaca | 9.10 | Good. |
| 6674 | 21 | S. Grant | Ithaca | 11.50 | Good. |
| 6675 | 21 | Platt & Colt | Ithaca | 8.70 | Fair. |
| 6676 | 21 | J. B. Todd | Ithaca | 10.30 | Good. |
| 6677 | 21 | Baker & Warren | Ithaca | 8.20 | Fair. |
| 6678 | 21 | McClune & Fisher | Ithaca | 9.90 | Good. |
| 6679 | 21 | Sager & Jennings | Cortland | 9.10 | Good. |
| 6680 | 21 | C. F. Brown | Cortland | 10.30 | Good. |
| 6681 | 21 | Fitz, Boynton & Co. | Cortland | 9.40 | Good. |
| 6682 | 21 | F. E. Brogden | Cortland | 10.40 | Good. |
| 6683 | 21 | F. I. Graham | Cortland | 10.00 | Good. |
| 6684 | 21 | G. W. Bradford | Cortland | 7.50 | Fair. |
| 6685 | 21 | C. F. Brown | Cortland | 9.80 | Good. |
| 6686 | 23 | D. H. Van Heusen | Johnstown | 9.00 | Good. |
| 6687 | 23 | W. B. Van Vliet | Johnstown | 11.40 | Good. |
| 6688 | 23 | Sutliff & Livingston | Johnstown | 11.50 | Good. |
| 6689 | 23 | J. F. Cahill | Johnstown | 10.50 | Good. |
| 6690 | 23 | C. E. Purington & Co. | Johnstown | 11.90 | Good. |
| 6691 | 23 | J. A. Miller & Co | Gloversville | 10.10 | Good. |
| 6692 | 23 | J. B. Stone | Gloversville | 12.00 | Good. |
| 6693 | 23 | G. Rowe | Gloversville | 6.50 | Inferior. |
| 6694 | 23 | A. M. Simmons | Gloversville | 5.20 | Inferior. |

**Compound Solution of Iodine.**—(*Liquer Iodi Comp U. S. P.*).

This preparation, known as "Lugol's Solution," should co five per cent of iodine, brought into solution in water by the iodide of potassium. One hundred and nine samples were exan of which there were of good quality, sixty-eight; fair, twenty-t inferior, seven; excessive strength, one; and not as calle ten. These latter samples consisted in some cases of tinct iodine and in others of a solution of iodide of potassium The samples varied in percentage of iodine, from 0.30 to Samples containing from four to seven per cent rated as g above seven per cent, excessive strength; from three to fou cent fair and below three per cent inferior. Particulars con ing the samples examined are appended:

Compound Solution of Iodine, U. S. P.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent of Iodine. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5122 | March 21 | Brown & Dawson | Syracuse | 4.50 | Good. |
| 5123 | 21 | Dwight & Reed | Syracuse | 4.30 | Good. |
| 5124 | 21 | Fox & Dygert | Syracuse | 2.60 | Inferior. |
| 5125 | 21 | Fry & Martin | Syracuse | 3.60 | Fair. |
| 5126 | 21 | P. L. Ryan & Co | Syracuse | 3.90 | Fair. |
| 5127 | 21 | F. C. Joslyn & Co | Syracuse | 5.20 | Good. |
| 5128 | 21 | T. W. Dalton & Co | Syracuse | 6.90 | Good. |
| 5129 | 21 | R. E. Smith | Syracuse | 2.80 | Inferior. |
| 5130 | 21 | Hanna & Coling | Syracuse | 4.80 | Good. |
| 5131 | 21 | W. B. Bissell | Syracuse | 3.80 | Fair. |
| 5132 | 21 | E. L. Gleason | Syracuse | 5.00 | Good. |
| 5133 | 21 | C. W. Snow & Co | Syracuse | 1.60 | Inferior. |
| 5134 | 21 | W. D. Tallman | Syracuse | 5.10 | Good. |
| 5135 | 23 | F. J. Hager & Co | Rome | 6.20 | Good. |
| 5136 | 23 | F. M. Hamlin | Rome | 5.00 | Good. |
| 5137 | 23 | J. G. Bissell & Co | Rome | 4.90 | Good. |
| 5138 | 23 | Broughton & Graves | Rome | 3.60 | Fair. |
| 5139 | 24 | F. T. Ray & Co | Utica | 3.20 | Fair. |
| 5140 | 24 | J. B. McMillan | Utica | 4.10 | Good. |
| 5141 | 24 | J. H. Sheehan &Co | Utica | 5.10 | Good. |
| 5142 | 24 | Howarth & Ballard | Utica | 4.40 | Good. |
| 5143 | 24 | J. W. Cone | Utica | 3.90 | Fair. |
| 5144 | 24 | G. L. Hill | Utica | 6.00 | Good. |

## Compound Solution of Iodine, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent of Iodine. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5145 | March 24 | Wm. Blaikie | Utica | 4.70 | Good. |
| 5146 | 24 | Luce & Plumb | Utica | 4.00 | Good. |
| 5147 | 24 | E. E. Jones | Utica | 3.80 | Fair. |
| 5148 | 24 | Wm. Howarth | Utica | 4.70 | Good. |
| 5149 | 24 | H. K. Preston | Utica | 4.40 | Good, |
| 5150 | 24 | W. A. Teachout | Utica | 5.30 | Good. |
| 5151 | 25 | G. H. Ingraham | Amsterdam | 4.80 | Good. |
| 5152 | 25 | N. C. Becker | Amsterdam | 3.80 | Fair. |
| 5153 | 25 | J. A. Barkhuff | Amsterdam | 5.20 | Good. |
| 5154 | 25 | A. T. Veeder & Son | Schenectady | 3.40 | Fair. |
| 5155 | 25 | J. T. Lyon | Schenectady | 3.60 | Fair. |
| 5156 | 25 | Wm. Sautter | Schenectady | 4.50 | Good. |
| 5157 | 25 | H. S. Moore | Schenectady | 5.60 | Good. |
| 5426 | May 17 | F. S. Smith | Auburn | 4.80 | Good. |
| 5427 | 17 | A. Z. Wright | Auburn | 4.30 | Good. |
| 5428 | 17 | A. H. Hamilton | Auburn | 4.00 | Good. |
| 5429 | 17 | L. Hunt | Auburn | 4.80 | Good. |
| 5430 | 17 | Wickes & Fraser | Auburn | 4.40 | Good. |
| 5431 | 17 | C. H. Sagar Co | Auburn | 5.20 | Good. |
| 5432 | 17 | H. L. Adams | Auburn | ..... | Consists of a solution of potassium iodide. Error [illegible] |

| | | | | | |
|---|---|---|---|---|---|
| 5436 | 18 | M. Barkman | Geneva | 4.40 | Good. |
| 5437 | 18 | J. A. Zobrist | Geneva | 1.30 | Inferior. |
| 5438 | 18 | W. H. Partridge | Geneva | 5.50 | Consists of tincture of iodine. Error in sale. |
| 5439 | 18 | Haveland & Hennip | Geneva | 5.20 | Good. |
| 5440 | 18 | A. L. Sweet | Geneva | 4.00 | Good. |
| 5441 | 18 | E. W. Simmons | Canandaigua | 4.90 | Good. |
| 5442 | 18 | Pierson & Benham | Canandaigua | 4.50 | Good. |
| 5443 | 18 | A. D. Paul & Co | Canandaigua | 2.00 | (Labeled "Comp Tinct. of Iodine.") Contains alcohol. Error in sale. |
| 5444 | 19 | Curran & Goler | Rochester | 3.70 | (Labeled "Comp. Tinct. of Iodine.") Contains alcohol. Error in sale. |
| 5445 | 19 | O. J. & J. A. Bryan | Rochester | 7.00 | Good. |
| 5446 | 19 | Paine Drug Co | Rochester | 3.70 | Fair. |
| 5447 | 19 | C. H. Althaus | Rochester | 4.50 | Good. |
| 5448 | 19 | Scofield & Barker | Rochester | 3.70 | Fair. |
| 5449 | 20 | Hyde & Paige | Rochester | 13 30 | Apparently tincture of iodine. Error in sale. |
| 5450 | 20 | Dake Bros. Drug Co | Rochester | 2.80 | (Labeled "Comp. Tinct. of Iodine.") Contains alcohol. Error in sale. |
| 5451 | 20 | J. & J. Cooper | Rochester | 5.10 | Good. |
| 5452 | 20 | A. R. Mandeville & Co | Rochester | 5.10 | Good. |
| 5453 | 20 | A. M. Dixon & Co | Rochester | 4.80 | Good. |
| 5454 | 20 | W. W. Steele | Rochester | 4.70 | Good. |

## Compound Solution of Iodine, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent of iodine. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5455 | May 20 | Ballard & Hurlburt | Rochester | 5.10 | Good. |
| 5456 | 22 | E. H. Davis & Co | Rochester | 4.20 | Good. |
| 5457 | 22 | R. W. Chambers & Co | Rochester | 4.60 | Good. |
| 5458 | 22 | G. Hahn | Rochester | 3.50 | (Labeled "Comp. Tinct. of Iodine.") Contains alcohol. Error in sale. |
| 5459 | 22 | S. A. Merriam | Rochester | 10.00 | Apparently tincture of iodine. Error in sale. |
| 5460 | 22 | L. Wyeth | Rochester | 4.70 | Good. |
| 5461 | 22 | L. Klinzing | Rochester | 5.00 | Good. |
| 5462 | 22 | G. Mannel | Rochester | 3.90 | Fair. |
| 5463 | 22 | F. Kobbe | Rochester | 6.70 | Good. |
| 5464 | 22 | G. W. Johns | Rochester | 3.10 | Fair. |
| 5465 | 22 | C. W. Waegner | Rochester | 3.20 | Fair. |
| 5466 | 22 | W. W. Steele | Rochester | 4.60 | Good. |
| 5467 | 23 | Craig & Vanderbelt | Rochester | 3.60 | (Labeled "Comp. Tinct. of Iodine). Contains alcohol. Error in sale. |
| 5468 | 23 | W. A. Barber | Rochester | 3.70 | Fair. |
| 5469 | 23 | J. M. Schmitt | Rochester | 2.90 | Inferior. |
| 5470 | 24 | J. W. Rushmore | Palmyra | 3.30 | (Labeled "Comp. Tinct. of Iodine.") Contains alcohol. Error in sale. |

| | | | | | |
|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6066 | 17 | Van Tassel & Tobey | Hudson | 3.60 | Fair. |
| 6067 | 17 | J. M. Johnson | Hudson | 3.90 | Fair. |
| 6068 | 17 | Rice Bros | Hudson | 4.00 | Good. |
| 6069 | 17 | Doty & Humphry | Poughkeepsie | 5.20 | Good. |
| 6070 | 17 | F. R. Bolton | Poughkeepsie | 4.80 | Good. |
| 6071 | 17 | Wood & Tittamer | Poughkeepsie | 4.60 | Good. |
| 6072 | 17 | Barnes Bro | Poughkeepsie | 4.50 | Good. |
| 6073 | 17 | J. Wilkinson | Poughkeepsie | 9.10 | Excessive strength. |
| 6074 | 17 | T. W. Roberts | Poughkeepsie | 3.30 | Fair. |
| 6075 | 18 | Griffin & Lent | Peekskill | 4.80 | Good. |
| 6076 | 18 | S. O. Washburne | Sing Sing | 4.20 | Good. |
| 6077 | 19 | J. Stahl, Jr. | Yonkers | 3.40 | Fair. |
| 6078 | 19 | G. B. Wray | Yonkers | 3.40 | Fair. |
| 6079 | 19 | E. Spock | Yonkers | 5.10 | Good. |
| 6080 | 19 | J. W. Wickersham | Yonkers | 4.80 | Good. |
| 6081 | 19 | L. J. Schlesinger | Yonkers | 4.00 | Good. |
| 6082 | 19 | F. Olivet | Mt. Vernon | 5.20 | Good. |
| 6083 | 19 | C. E. Penfield | Mt. Vernon | 3.60 | Fair. |
| 6084 | 19 | A. Richter & Co | Mt. Vernon | 4.60 | Good. |
| 6085 | 19 | A. H. Lins | Mt. Vernon | 4.80 | Good. |
| 6086 | 19 | Gill's Pharmacy | Mt. Vernon | 4.00 | Good. |

Tincture of Iodine — (*Tinctura Iodi, U. S. P.*).

Two hundred and thirty-seven samples of this imp preparation were examined, of which there were of quality, fifty-seven; fair, ninety-six; inferior, eighty-on excessive strength, three. Not quite one-quarter, the were of really good quality. The pharmacopoeia require per cent of iodine. The samples examined varied from 12.40 per cent. Samples containing from seven to te cent were rated as of good quality; over ten per cent, sive strength; from six to seven per cent, fair, and und per cent, inferior. Particulars concerning the samples exa are appended:

## Tincture of Iodine, U. S. P.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent of Iodine. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4498 | March 16 | F. W. Schaefer | Albany | 8.40 | Good. |
| 4499 | 16 | E. F. Hunting | Albany | 6.80 | Fair. |
| 4500 | 16 | C. H. Smith & Co | Albany | 8.10 | Good. |
| 4501 | 16 | C. H. Gaus | Albany | 6.60 | Fair. |
| 4502 | 16 | Wm. McAllaster | Albany | 6.50 | Fair. |
| 4503 | 16 | J. D. Palmatier | Albany | 7.90 | Good. |
| 4504 | 16 | A. B. Huested & Co | Albany | 7.00 | Good. |
| 4505 | 16 | T. W. Nellis | Albany | 6.30 | Fair. |
| 4506 | 16 | Wm. Sautter. | Albany | 12.40 | Excessive strength. |
| 4507 | 16 | F. H. Bassett | Albany | 4.00 | Inferior. |
| 4508 | 16 | Est. of J. E. Miller | Albany | 6.70 | Fair. |
| 4541 | 18 | A. R. Miller | Albany | 6.10 | Fair. |
| 4542 | 18 | S. C. Bradt & Son | Albany | 7.10 | Good. |
| 4543 | 18 | J. C. Van Loon | Albany | 5.80 | Inferior. |
| 4544 | 18 | L. Sautter | Albany | 7.00 | Good. |
| 4545 | 18 | W. E. Masten | Albany | 6.00 | Fair. |
| 4546 | 18 | Wm. S. Elmendorf | Albany | 8.40 | Good. |
| 4547 | 18 | L. H. Gaus | Albany | 10.00 | Good. |
| 4548 | 18 | Turner Bros | Albany | 7.70 | Good. |
| 4549 | 18 | O. Scholz | Albany | 6.60 | Fair. |
| 4550 | 18 | J. W. Heller & Co. | Albany | 6.20 | Fair. |
| 4568 | 20 | T. J. Lewi | Albany | 6.60 | Fair. |
| 4569 | 20 | A. Gilbert | Albany | 7.80 | Good. |

## Tincture of Iodine, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent of Iodine. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4570 | March 20 | M. W. Macomber | Albany | 4.60 | Inferior. |
| 4571 | 20 | J. De P. Townsend | Albany | 6.00 | Fair. |
| 4572 | 20 | A. H. Bayard | Albany | 6.30 | Fair. |
| 4573 | 20 | H. Miller | Albany | 6.80 | Fair. |
| 5051 | 21 | Brown & Dawson | Syracuse | 6.60 | Fair. |
| 5052 | 21 | Dwight & Reed. | Syracuse | 6.30 | Fair. |
| 5053 | 21 | Fox & Dygert | Syracuse | 5.80 | Inferior. |
| 5054 | 21 | Coogan & Quigley | Syracuse | 4.20 | Inferior. |
| 5055 | 21 | Fry & Martin | Syracuse | 4.20 | Inferior. |
| 5056 | 21 | P. L. Ryan & Co | Syracuse | 5.70 | Inferior. |
| 5057 | 21 | F. C. Joslyn & Co | Syracuse | 5.00 | Inferior. |
| 5058 | 21 | E. B. Covert | Syracuse | 6.00 | Fair. |
| 5059 | 21 | T. W. Dalton & Co. | Syracuse | 4.60 | Inferior. |
| 5060 | 21 | R. E. Smith | Syracuse | 5.80 | Inferior. |
| 5061 | 21 | Hanna & Coling | Syracuse | 6.10 | Fair. |
| 5062 | 21 | W. B. Bissell | Syracuse | 7.70 | Good. |
| 5063 | 21 | E. L. Gleason | Syracuse | 5.60 | Inferior. |
| 5064 | 21 | C. W. Snow & Co. | Syracuse | 1.20 | Inferior. |
| 5065 | 21 | Soldan & Hubbard | Syracuse | 3.00 | Inferior. |
| 5066 | 21 | G. A. Heyne | Syracuse | 6.60 | Fair. |
| 5067 | 21 | O. B. Heyne | Syracuse | 7.70 | Good. |
| 5068 | 21 | Wm. Muench | Syracuse | 6.20 | Fair. |
| 5069 | 21 | G. W. Holloway | Syracuse | 5.80 | Inferior. |

| | | | | | |
|---|---|---|---|---|---|
| 5072 | 21 | J. M. Cummings | Syracuse | | Good. |
| 5073 | 21 | F. E. Champlin & Co | Syracuse | 5.40 | Inferior. |
| 5074 | 21 | R. Bodden | Syracuse | 5.50 | Inferior. |
| 5075 | 21 | D. Derby | Syracuse | 5.60 | Inferior. |
| 5076 | 21 | W. B. Fuller | Syracuse | 6.40 | Fair. |
| 5077 | 21 | W. D. Tallman | Syracuse | 5.50 | Inferior. |
| 5078 | 21 | F. C. Joslyn & Co. | Syracuse | 6.30 | Fair. |
| 5079 | 21 | L. D. Korb | Syracuse | 2.20 | Inferior. |
| 5080 | 22 | Myers Bros | Oneida | 8.40 | Good. |
| 5081 | 22 | Hernan & Campbell | Oneida | 6.10 | Fair. |
| 5082 | 22 | Harp & Lounsbery | Oneida | 8.20 | Good. |
| 5083 | 22 | Brown & Drake | Oneida | 6.50 | Fair. |
| 5084 | 22 | J. H. Cool | Oneida | 6.20 | Fair. |
| 5085 | 23 | F. J. Hager & Co | Rome | 5.60 | Inferior. |
| 5086 | 23 | F. M. Hamlin | Rome | 5.80 | Inferior. |
| 5087 | 23 | J. G. Bissel & Co | Rome | 7.60 | Good. |
| 5088 | 23 | Broughton & Graves | Rome | 7.00 | Good. |
| 5089 | 24 | F. T. Ray & Co | Utica | 10.00 | Good. |
| 5090 | 24 | J. B. McMillan | Utica | 6.50 | Fair. |
| 5091 | 24 | J. H. Sheehan & Co | Utica | 5.80 | Inferior. |
| 5092 | 24 | Howarth & Ballard | Utica | 3.10 | Inferior. |
| 5093 | 24 | J. W. Cone | Utica | 5.90 | Inferior. |
| 5094 | 24 | G. L. Hill | Utica | 7.40 | Good. |
| 5095 | 24 | Wm. Blaikie | Utica | 6.60 | Fair. |
| 5096 | 24 | Luce & Plumb | Utica | 5.80 | Inferior. |
| 5097 | 24 | T. Manahan | Utica | 2.80 | Inferior. |
| 5098 | 24 | F. J. Gschwind | Utica | 6.60 | Fair. |
| 5099 | 24 | E. E. Jones | Utica | 5.10 | Inferior. |
| 5100 | 24 | Wm. Howarth | Utica | 5.90 | Inferior. |

## Tincture of Iodine, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | | OF WHOM PURCHASED. | Where purchased. | Per cent of Iodine. | Quality. |
|---|---|---|---|---|---|---|
| | 1863. | | | | | |
| 5101 | March. | 24 | J. B. Williams | Utica | 5.50 | Inferior. |
| 5102 | | 24 | H. K. Preston | Utica | 6.60 | Fair. |
| 5103 | | 24 | W. A. Teachout | Utica | 9.90 | Good. |
| 5104 | | 25 | J. Donnelly | Amsterdam | 6.60 | Fair. |
| 5105 | | 22 | G. H. Ingraham | Amsterdam | 4.20 | Inferior. |
| 5106 | | 25 | Bradford & Dickinson | Amsterdam | 6.40 | Fair. |
| 5107 | | 25 | M. W. Reid | Amsterdam | 7.70 | Good. |
| 5108 | | 25 | E. W. Clark | Amsterdam | 7.70 | Good. |
| 5109 | | 25 | C. W. Stricker | Amsterdam | 5.90 | Inferior. |
| 5110 | | 25 | Powell & Gilbert | Amsterdam | 4.40 | Inferior. |
| 5111 | | 25 | N. C. Becker | Amsterdam | 5.90 | Inferior. |
| 5112 | | 25 | J. V. Riggs | Amsterdam | 7.10 | Good. |
| 5113 | | 25 | J. A. Barkhuff | Amsterdam | 6.40 | Fair. |
| 5114 | | 25 | C. H. Horstmann | Schenectady | 6.50 | Fair. |
| 5115 | | 25 | E. Rosa | Schenectady | 4.60 | Inferior. |
| 5116 | | 25 | A. T. Veeder & Son | Schenectady | 5.60 | Inferior. |
| 5117 | | 25 | G. Steinfuhrer | Schenectady | 7.20 | Good. |
| 5118 | | 25 | J. T. Lyon | Schenectady | 6.50 | Fair. |
| 5119 | | 25 | Wm. Sautter | Schenectady | 6.30 | Fair. |
| 5120 | | 25 | G. E. Duryee | Schenectady | 8.30 | Good. |
| 5121 | | 25 | H. S. Moore | Schenectady | 4.20 | Inferior. |
| 5345 | May | 17 | F. S. Smith | Auburn | 6.60 | Fair. |
| 5346 | | 17 | A. Z. Wright | Auburn | 5.40 | Inferior. |

| | | | | | |
|---|---|---|---|---|---|
| 5348 | 17 | A. H. Hamilton | Auburn | 7.90 | Good. |
| 5349 | 17 | J. L. Elliott | Auburn | 6.50 | Fair. |
| 5350 | 17 | L. Hunt | Auburn | 5.50 | Inferior. |
| 5351 | 17 | Wicks & Fraser | Auburn | 6.90 | Fair. |
| 5352 | 17 | C. H. Sagar Co | Auburn | 6.70 | Fair. |
| 5353 | 17 | M. L. Walley & Co | Auburn | 7.60 | Good. |
| 5354 | 17 | H. L. Adams | Auburn | 5.40 | Inferior. |
| 5355 | 17 | T. B. Sharp & Sons | Seneca Falls | 6.30 | Fair. |
| 5356 | 17 | Casey & Seaman | Seneca Falls | 6.00 | Fair. |
| 5357 | 17 | P. Van Kleeck | Seneca Falls | 5.50 | Inferior. |
| 5358 | 17 | Crobaugh & Marsden | Waterloo | 6.40 | Fair. |
| 5359 | 17 | R. G. Smith & Son | Waterloo | 7.70 | Good. |
| 5360 | 18 | M. Barkman | Geneva | 7.00 | Good. |
| 5361 | 18 | J. A. Zobrist | Geneva | 3.40 | Inferior. |
| 5362 | 18 | W. H. Partridge | Geneva | 5.40 | Inferior. |
| 5363 | 18 | Haviland & Hennip | Geneva | 6.50 | Fair. |
| 5364 | 18 | A. L. Sweet | Geneva | 6.40 | Fair. |
| 5365 | 18 | E. W. Simmons | Canandaigua | 7.20 | Good. |
| 5366 | 18 | A. S. Newman | Canandaigua | 6.00 | Fair. |
| 5367 | 18 | Pierson & Benham | Canandaigua | 5.30 | Inferior. |
| 5368 | 18 | A. D. Paul & Co | Canandaigua | 4.90 | Inferior. |
| 5369 | 19 | Curran & Goler | Rochester | 7.40 | Good. |
| 5370 | 19 | O. J. & J. A. Bryan | Rochester | 5.50 | Inferior. |
| 5371 | 19 | Paine Drug Co | Rochester | 6.70 | Fair. |
| 5372 | 19 | C. H. Althaus | Rochester | 6.60 | Fair. |
| 5373 | 19 | Scofield & Barker | Rochester | 7.40 | Good. |
| 5374 | 20 | Hyde & Page | Rochester | 4.00 | Inferior. |
| 5375 | 20 | Dake Bros. Drug Co | Rochester | 5.40 | Inferior. |
| 5376 | 20 | J. & J. Cooper | Rochester | 4.80 | Inferior. |
| 5377 | 20 | A. R. Mandeville & Co | Rochester | 6.50 | Fair. |

## Tincture of Iodine, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent of iodine. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5378 | May 20 | A. M. Dixon & Co | Rochester | 6.00 | Fair. |
| 5379 | 20 | E. Fellman | Rochester | 6.60 | Fair. |
| 5380 | 20 | W. W. Steele | Rochester | 7.00 | Good. |
| 5381 | 20 | Ballard & Hurlburt | Rochester | 7.90 | Good. |
| 5382 | 22 | W. H. Crippen | Rochester | 6.60 | Fair. |
| 5383 | 22 | A. B. Chamberlain | Rochester | 4.70 | Inferior. |
| 5384 | 22 | R. J. Strasenburgh | Rochester | 6.60 | Fair. |
| 5385 | 22 | J. K. Post & Co | Rochester | 5.80 | Inferior. |
| 5386 | 22 | E. W. Davis & Co | Rochester | 6.60 | Fair. |
| 5387 | 22 | R. W. Chambers & Co | Rochester | 7.80 | Good. |
| 5388 | 22 | N. Barrowclough | Rochester | 7.20 | Good. |
| 5389 | 22 | J. P. Irish | Rochester | 5.80 | Inferior. |
| 5390 | 22 | G. Hahn | Rochester | 7.90 | Good. |
| 5391 | 22 | S. A. Merriam | Rochester | 6.90 | Fair. |
| 5392 | 22 | L. Wyeth | Rochester | 5.40 | Inferior. |
| 5393 | 22 | L. Klinzing | Rochester | 7.00 | Good. |
| 5394 | 22 | G. Mannel | Rochester | 6.80 | Fair |
| 5395 | 22 | F. Kobbe | Rochester | 7.70 | Good. |
| 5396 | 22 | G. W. Johns | Rochester | 8.40 | Good. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5401 | | 23 | C. H. Gauger | Rochester | 6.80 | Fair. |
| 5402 | | 23 | T. M. Stewart | Rochester | 7.50 | Good. |
| 5403 | | 23 | Craig & Vanderbelt | Rochester | 6.10 | Fair. |
| 5404 | | 23 | C. F. Maid | Rochester | 7.60 | Good. |
| 5405 | | 23 | F. W. Jackson & Co | Rochester | 5.50 | Inferior. |
| 5406 | | 23 | A. C. Dempsey | Rochester | 6.70 | Fair. |
| 5407 | | 23 | W. A. Barber | Rochester | 5.00 | Inferior. |
| 5408 | | 23 | J. M. Schmitt | Rochester | 5 30 | Inferior. |
| 5409 | | 23 | F. L. Hewitt | Rochester | 5.60 | Inferior. |
| 5410 | | 23 | F. S. Mason | Rochester | 4.50 | Inferior. |
| 5411 | | 23 | J. F. Burkard | Rochester | 6.60 | Fair. |
| 5412 | | 23 | F. L. Zimmerman | Rochester | 5.80 | Inferior. |
| 5413 | | 24 | J. W. Rushmore | Palmyra | 5.90 | Inferior. |
| 5414 | | 25 | N. R. Gardner | Palmyra | 6.60 | Fair. |
| 5415 | | 24 | B. H. Davis & Co | Palmyra | 4.20 | Inferior. |
| 5416 | | 24 | R. E. Morse & Son | Newark | 7.00 | Good. |
| 5417 | | 24 | W. H. Kelley | Newark | 7.70 | Good. |
| 5418 | | 24 | M. H. Dillenbeck | Lyons | 6.50 | Fair. |
| 5419 | | 24 | G. W. Getman | Lyons | 6.90 | Fair. |
| 5420 | | 24 | Moore & Moore | Lyons | 7.00 | Good. |
| 5421 | | 24 | G. W. Koester | Lyons | 2.80 | Inferior. |
| 5422 | | 25 | C. A. Sherman | Clyde | 6.00 | Fair. |
| 5423 | | 25 | Freeman & Martin | Clyde | 7.20 | Good. |
| 5424 | | 25 | P. Merrill & Son | Clyde | 7.10 | Good. |
| 5425 | | 25 | F. H. Terry | Clyde | 4.80 | Inferior. |
| 6006 | July | 17 | A. J. Fellows | Chatham | 7.30 | Good. |
| 6007 | | 17 | H. J. Baringer, Jr | Chatham | 6.50 | Fair. |
| 6008 | | 17 | W. H. Barnes | Chatham | 6.60 | Fair. |
| 6009 | | 17 | C. S. Hanks | Hudson | 6.00 | Fair. |
| 6010 | | 17 | A. McKinstry & Son | Hudson | 8.00 | Good. |

## Tincture of Iodine, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent of iodine. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6011 | July 17 | Van Tassell & Tobey | Hudson | 6.20 | Fair. |
| 6012 | 17 | J. M. Johnson | Hudson | 4.00 | Inferior. |
| 6013 | 17 | Rice Bros | Hudson | 6.40 | Fair. |
| 6014 | 17 | B. Stedman | Hudson | 6.30 | Fair. |
| 6015 | 17 | Wardle & Son | Hudson | 5.00 | Inferior. |
| 6016 | 17 | A. Clark | Poughkeepsie | 6.80 | Fair. |
| 6017 | 17 | G. L. Brown | Poughkeepsie | 6.30 | Fair. |
| 6018 | 17 | J. V. Humphrey | Poughkeepsie | 6.20 | Fair. |
| 6019 | 17 | Doty & Humphrey | Poughkeepsie | 6.00 | Fair. |
| 6020 | 17 | C. S. Bowne | Poughkeepsie | 6.10 | Fair. |
| 6021 | 17 | F. R. Bolton | Poughkeepsie | 6.00 | Fair. |
| 6022 | 17 | Strickler & Schwartz | Poughkeepsie | 6.80 | Fair. |
| 6023 | 17 | Wood & Tittamer | Poughkeepsie | 6.30 | Fair. |
| 6024 | 17 | Barnes Bros | Poughkeepsie | 8.70 | Good. |
| 6025 | 17 | C. Westervelt | Poughkeepsie | 6.00 | Fair. |
| 6026 | 17 | James Wilkinson | Poughkeepsie | 6.20 | Fair. |
| 6027 | 17 | T. W. Roberts | Poughkeepsie | 1.90 | Inferior. |
| 6028 | 17 | A. A. & J. W. Goetchins | Poughkeepsie | 11.00 | Excessive strength. |
| 6029 | 18 | L. Loughran | Fishkill | 4.80 | Inferior. |
| 6030 | 18 | S. Mapes | Fishkill | 3.90 | Inferior. |
| | 18 | Merritt's Drug Store | Fishkill | 6.80 | Fair. |

| | | | | | |
|---|---|---|---|---|---|
| 6036 | 18 | Grimm & Lent | Peekskill | 6.00 | Fair. |
| 6037 | 18 | T. S. Boyd | Peekskill | 6 20 | Fair. |
| 6038 | 18 | C. E. Gregory | Peekskill | 6.10 | Fair. |
| 6039 | 18 | F. A. Grunzebach | Peekskill | 5.50 | Inferior. |
| 6040 | 18 | H. H. Lane | Peekskill | 6.30 | Fair. |
| 6041 | 18 | J. C. Russell | Sing Sing | 5.80 | Inferior. |
| 6042 | 18 | J. A. Hart | Sing Sing | 7.00 | Good. |
| 6043 | 18 | S. O. Washburne | Sing Sing | 6.00 | Fair. |
| 6044 | 19 | J. Stahl, Jr | Yonkers | 7.40 | Good. |
| 6045 | 19 | T. A. Walsh | Yonkers | 5.70 | Inferior. |
| 6046 | 19 | G. B. Wray | Yonkers | 4.60 | Inferior. |
| 6047 | 19 | E. Spock | Yonkers | 6.50 | Fair. |
| 6048 | 19 | J. W. Wickersham | Yonkers | 6.90 | Fair. |
| 6049 | 19 | E. A. Houston | Yonkers | 6.40 | Fair. |
| 6050 | 19 | J. B. Brouwer | Yonkers | 5.80 | Inferior. |
| 6051 | 19 | J. T. Lennon | Yonkers | 7.40 | Good. |
| 6052 | 19 | L. J. Schlessinger | Yonkers | 6.20 | Fair. |
| 6053 | 19 | A. Van Houten | Yonkers | 5.30 | Inferior. |
| 6054 | 19 | F. Olivet | Mt. Vernon | 5.20 | Inferior. |
| 6055 | 19 | C. E. Penfield | Mt. Vernon | 6.50 | Fair. |
| 6056 | 19 | E. Laviolette | Mt. Vernon | 6.30 | Fair. |
| 6057 | 19 | A. Richter & Co | Mt. Vernon | 5.80 | Inferior. |
| 6058 | 19 | A. H. Lins | Mt. Vernon | 6.30 | Fair. |
| 6059 | 19 | T. F. Hunt | Mt. Vernon | 7.20 | Good. |
| 6060 | 19 | F. W. Carlisle | Mt. Vernon | 6.70 | Fair. |
| 6061 | 19 | Gill's Pharmacy | Mt. Vernon | 5.40 | Inferior. |
| 6062 | 19 | F. H. Nowill | White Plains | 5.80 | Inferior. |
| 6063 | 19 | J. W. Stafford | White Plains | 6.20 | Fair. |

## Ipecac.—(*Ipecacuanha, U. S. P.*).

Fifteen samples of the powdered drug examined, all but one of which were found to be of good quality, as shown in the following table:

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4460 | February 25 | A. B. Huested & Co | Albany | Good. |
| 4461 | 27 | Estate of J. E. Miller | Albany | Good. |
| 4462 | 27 | S. C. Hodgkins | Albany | Good. |
| 4463 | 27 | J. M. Bandorf | Albany | Good. |
| 4464 | 27 | L. Sautter | Albany | Good. |
| 4465 | 27 | C. Van Loon | Albany | Good. |
| 4466 | 27 | T. W. Nellis | Albany | Good. |
| 4467 | 27 | W. Sautter | Albany | Good. |
| 4468 | 27 | F. H. Bassett | Albany | Good. |
| 4469 | 28 | A. R. Miller | Albany | Good. |
| 4470 | 28 | S. C. Bradt & Son | Albany | Good. |
| 4471 | 28 | C. H. Gaus | Albany | Good. |
| 4472 | 28 | E. F. Hunting | Albany | Good. |
| 4473 | 28 | F. W. Shaefer | Albany | Good. |
| 4474 | 28 | M. W. Macomber | Albany | Fair. |

list of the samples is appended:

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4600 | March 16 | E. F. Hunting | Albany | Good. |
| 4601 | 16 | C. H. Gaus | Albany | Good. |
| 4602 | 16 | Wm. McAllaster | Albany | Good. |
| 4603 | 16 | A. B. Huested & Co | Albany | Good. |
| 4604 | 16 | Wm. Sautter | Albany | Good. |
| 4605 | 17 | A. R. Miller | Albany | Good. |
| 5158 | 22 | Myers Bros | Oneida | Good. |
| 5159 | 22 | Brown & Drake | Oneida | Good. |
| 5160 | 23 | F. M. Hamlin | Rome | Good. |
| 5161 | 23 | Broughton & Graves | Rome | Good. |
| 5162 | 24 | F. J. Ray & Co | Utica | Good. |
| 5163 | 24 | Wm Blaikie | Utica | Good. |
| 5164 | 24 | Luce & Plumb | Utica | Good. |
| 5165 | 24 | T. Manahan | Utica | Fair. |
| 5166 | 24 | Wm. Howarth | Utica | Good. |
| 5167 | 24 | J. B. Williams | Utica | Good. |
| 5168 | 25 | E. W. Clark | Amsterdam | Good. |
| 5169 | 25 | Powell & Gilbert | Amsterdam | Good. |
| 5170 | 25 | N. C. Becker | Amsterdam | Good. |
| 5171 | 25 | A. T. Veeder & Son | Schenectady | Fair. |
| 5172 | 25 | H. S. Moore | Schenectady | Good. |

## Magnesia — (*Magnesia, U. S. P.*).

One hundred and eleven samples of this familiar article we examined, of which there were of good quality, fifty-two; fai three; inferior, fifty; and not as called for, six. Less th half the total number were, therefore, of really good quality the remainder either being largely carbonated or consistin wholly of the carbonate sold, through ignorance, for magnesi This substance draws carbonic acid rapidly from the air if car lessly kept in open receptacles, and should, therefore, always b preserved in well-closed vessels. The substitution of the ca bonate or common "magnesia alba" for magnesia, betoken great ignorance or carelessness on the part of the seller. A li of the samples examined is appended:

## Magnesia, U. S. P.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 5173 | March 24 | J. B. McMillan | Utica | Good. |
| 5174 | 24 | E. E. Jones | Utica | Good. |
| 5175 | 24 | W. A. Teachout | Utica | Contains some carbonate. Fair. |
| 5176 | 25 | Bradford & Dickinson | Amsterdam | Good. |
| 5177 | 25 | G. E. Duryee | Schenectady | Good. |
| 5852 | May 17 | A. Z. Wright | Auburn | Good. |
| 5853 | 17 | J. L. Elliott | Auburn | Good. |
| 5854 | 17 | Wicker & Fraser | Auburn | Good. |
| 5855 | 17 | M. L. Walley & Co | Auburn | Good. |
| 5856 | 17 | Casey & Seaman | Seneca Falls | Good. |
| 5857 | 17 | P. Van Kleeck | Seneca Falls | Good. |
| 5858 | 17 | R. G. Smith & Son | Waterloo | Largely carbonated; inferior. |
| 5859 | 18 | W. H. Partridge | Geneva | Good. |
| 5860 | 18 | A. L. Sweet | Geneva | Largely carbonated; inferior. |
| 5861 | 18 | E. W. Simmons | Canandaigua | Good. |
| 5862 | 18 | Pierson & Benham | Canandaigua | Largely carbonated; inferior. |
| 5863 | 19 | Curran & Goles | Rochester | Largely carbonated; inferior. |
| 5864 | 19 | C. H. Althaus | Rochester | Good. |
| 5865 | 19 | Scofield & Barker | Rochester | Largely carbonated; inferior. |
| 5866 | 20 | Hyde & Paige | Rochester | Largely carbonated; inferior. |
| 5867 | 20 | Dake Bros. Drug Co | Rochester | Largely carbonated; inferior. |
| 5868 | 20 | J. J. Cooper | Rochester | Largely carbonated; inferior. |
| 5869 | 20 | A. M. Dixon & Co | Rochester | Largely carbonated; inferior. |

## Magnesia, U. S. P. —(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 5870 | May 20 | W. W. Steele | Rochester | Largely carbonated; inferior. |
| 5871 | 22 | W. H. Crippen | Rochester | Largely carbonated; inferior. |
| 5872 | 22 | A. B. Chamberlain | Rochester | Good. |
| 5873 | 22 | R. J. Strasenburgh | Rochester | Largely carbonated; inferior. |
| 5874 | 22 | J. K. Post & Co | Rochester | Largely carbonated; inferior. |
| 5875 | 22 | E. H. Davis & Co | Rochester | Good. |
| 5876 | 22 | R. W. Chambers & Co | Rochester | Good. |
| 5877 | 22 | G. Hahn | Rochester | Good. |
| 5878 | 22 | S. A. Merriam | Rochester | Largely carbonated; inferior. |
| 5879 | 22 | L. Wyeth | Rochester | Largely carbonated; inferior. |
| 5880 | 22 | L. Klinzing | Rochester | Good. |
| 5881 | 22 | G. Mannel | Rochester | (Labeled, "Carbonate.") Error in sale. |
| 5882 | 22 | F. Kobbe | Rochester | Largely carbonated: inferior. |
| 5883 | 22 | G. W. Johns | Rochester | Largely carbonated; inferior. |
| 5884 | 22 | C. W. Waegner | Rochester | Largely carbonated; inferior. |
| 5885 | 22 | M. Levin | Rochester | Largely carbonated; inferior. |
| 5886 | 22 | W. W. Steele | Rochester | Fair. |

| | | | | | |
|---|---|---|---|---|---|
| [illegible] | | 23 | [illegible] | Rochester | Largely carbonated; inferior. |
| 5894 | | 23 | F. L. Hewitt | Rochester | Good. |
| 5895 | | 23 | F. S. Mason | Rochester | Largely carbonated; inferior. |
| 5896 | | 23 | F. L. Zimmerman | Rochester | Largely carbonated; inferior. |
| 5897 | | 24 | J. W. Rushmore | Palmyra | Fair. |
| 5898 | | 24 | R. E. Morse & Son | Newark | Good. |
| 5899 | | 24 | W. H. Kelley | Newark | Largely carbonated; inferior. |
| 5900 | | 24 | M. H. Dillenbeck | Lyons | Good. |
| 5901 | | 24 | G. W. Getman | Lyons | Good. |
| 5902 | | 24 | Moore & Moore | Lyons | Largely carbonated; inferior. |
| 5903 | | 24 | G. W. Koester | Lyons | Largely carbonated; inferior. |
| 5904 | | 25 | C. A. Sherman | Clyde | Good. |
| 5905 | | 25 | Freeman & Martin | Clyde | Largely carbonated; inferior. |
| 5906 | | 25 | P. Merrill & Son | Clyde | Largely carbonated; inferior. |
| 5907 | | 25 | F. H. Terry | Clyde | Largely carbonated; inferior. |
| 6334 | July | 17 | A. J. Fellows | Chatham | Good. |
| 6335 | | 17 | H. J. Baringer, Jr. | Chatham | Consists of carbonate of magnesia. Error in sale. |
| 6336 | | 17 | W. H. Barnes | Chatham | Good. |
| 6337 | | 17 | C. S. Hanks | Hudson | Good. |
| 6338 | | 17 | A. McKinstry & Son | Hudson | Good. |
| 6339 | | 17 | Van Tassel & Tobey | Hudson | Good. |
| 6340 | | 17 | J. M. Johnson | Hudson | Good. |
| 6341 | | 17 | Rice Bros. | Hudson | Good. |
| 6342 | | 17 | Wardle & Son | Hudson | Good. |
| 6343 | | 17 | A. Clark | Poughkeepsie | Largely carbonated; inferior. |
| 6344 | | 17 | G. L. Brown | Poughkeepsie | Good. |
| 6345 | | 17 | J. V. Humphrey | Poughkeepsie | Good. |
| 6346 | | 17 | E. S. Bowne | Poughkeepsie | Consists of carbonate of magnesia. Error in sale. |

## Magnesia, U. S P.—(*Concluded*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 6347 | July 17 | F. R. Bolton | Poughkeepsie | Largely carbonated; inferior. |
| 6348 | 17 | Strickler & Schwartz | Poughkeepsie | Largely carbonated; inferior. |
| 6349 | 17 | Wood & Tittamer | Poughkeepsie | Good. |
| 6350 | 17 | Barnes Bros | Poughkeepsie | Good. |
| 6351 | 17 | C. Westervelt | Poughkeepsie | Good. |
| 6352 | 17 | J. Wilkinson | Poughkeepsie | Good. |
| 6353 | 17 | T. W. Roberts | Poughkeepsie | Consists of carbonate of magnesia. Error in sale. |
| 6354 | 17 | A. A. & J. W. Goetchins | Poughkeepsie | Good. |
| 6355 | 18 | F. Loughran | Fishkill | Largely carbonated; inferior. |
| 6356 | 18 | Merritt's Drug Store | Fishkill | Largely carbonated; inferior. |
| 6357 | 18 | H. B. Bevier | Matteawan | Largely carbonated; inferior. |
| 6358 | 18 | B. F. Greene | Matteawan | Good. |
| 6359 | 18 | E. H. Ellis | Matteawan | Good. |
| 6360 | 18 | H. Tate | Peekskill | Good. |
| 6361 | 18 | Griffin & Lent | Peekskill | Largely carbonated; inferior. |
| 6362 | 18 | T. S. Boyd | Peekskill | Good. |
| 6363 | 18 | F. A. Grenzeback | Peekskill | Largely carbonated; inferior. |
| 6364 | 18 | H. H. Lane | Peekskill | Consists of carbonate of magnesia. Error in sale. |
| 6365 | 18 | T. A. Whitney | Peekskill | Consists of carbonate of magnesia. Error in sale. |
| 6366 | 18 | J. C. Russell | Sing Sing | Good. |

| | | | | |
|---|---|---|---|---|
| 6367 | 18 | J. A. Hart | Sing Sing | Largely carbonated; inferior. |
| 6368 | 18 | S. O. Washburne | Sing Sing | Good. |
| 6369 | 19 | J. Stahl, Jr. | Yonkers | Good. |
| 6370 | 19 | T. A. Walsh | Yonkers | Largely carbonated; inferior. |
| 6371 | 19 | G. B. Wray | Yonkers | Good. |
| 6372 | 19 | J. W. Wickersham | Yonkers | Good. |
| 6373 | 19 | E. A. Houston | Yonkers | Largely carbonated; inferior. |
| 6374 | 19 | J. B. Brouwer | Yonkers | Good. |
| 6375 | 19 | J. T. Lennon | Yonkers | Largely carbonated; inferior. |
| 6376 | 19 | L. J. Schlesinger | Yonkers | Largely carbonated; inferior. |
| 6377 | 19 | E. Laviolette | Mt. Vernon | Largely carbonated; inferior. |
| 6378 | 19 | A. Richter & Co | Mt. Vernon | Largely carbonated; inferior. |
| 6379 | 19 | A. H. Lins | Mt. Vernon | Largely carbonated; inferior. |
| 6380 | 19 | F. W. Carlisle | Mt. Vernon | Good. |
| 6381 | 19 | Gill's Pharmacy | Mt. Vernon | Largely carbonated; inferior. |
| 6382 | 19 | F. H. Nowell | White Plains | Largely carbonated; inferior. |
| 6383 | 19 | J. W. Stafford | White Plains | Largely carbonated; inferior. |

**Rhubarb.**—(*Rheum, U. S. P.*).

Seventeen samples of the powdered drug were examined, and all found to be of good quality, as follows:

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Quality. |
|---|---|---|---|---|
| | 1893. | | | |
| 4443 | February 25 | A. B. Huested & Co | Albany | Good. |
| 4444 | 25 | A. B. Huested & Co | Albany | Good. |
| 4445 | 27 | Estate of J. E. Miller | Albany | Good. |
| 4446 | 27 | S. C. Hodgkins | Albany | Good. |
| 4447 | 27 | J. M. Bandorf | Albany | Good. |
| 4448 | 27 | L. Sautter | Albany | Good. |
| 4449 | 27 | C. Van Loon | Albany | Good. |
| 4450 | 27 | T. W. Nellis | Albany | Good. |
| 4451 | 27 | Wm. Sautter | Albany | Good. |
| 4452 | 27 | F. H. Bassett | Albany | Good. |
| 4453 | 28 | J. D. Palmatier | Albany | Good. |
| 4454 | 28 | A. R. Miller | Albany | Good. |
| 4455 | 28 | S. C. Bradt & Son | Albany | Good. |
| 4456 | 28 | C. H. Gaus | Albany | Good. |
| 4457 | 28 | E. F. Hunting | Albany | Good. |
| 4458 | 28 | F. W. Schaefer | Albany | Good. |
| 4459 | 28 | M. W. Macomber | Albany | Good. |

**atic Sulphuric Acid** — (*Acidum Sulphuricum Aromaticum, U. S. P.*).

o hundred and eighty-nine samples examined, of which were, of good quality, twenty-nine; fair, ninety-three; or, 167, or considerably more than half the number. This ration should contain, according to the pharmacopoeial rement, "about twenty per cent of officinal sulphuric acid, y in form of ethyl-sulphuric acid." The samples exam- varied from 1.30 to 25.00 per cent of absolute acid, and fore all contained a very slightly higher percentage of offi- acid. Samples containing from 16 to 25 per cent have rated as of good quality; over 25 per cent, excessive gth; from 13.5 to 16 per cent, fair; and under 13.5 per inferior quality. Particulars concerning the samples are nded.

## Aromatic Sulphuric Acid, U. S. P.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4487 | March 16 | F. W. Schaefer | Albany | 16.30 | Good. |
| 4488 | 16 | E. F. Hunting | Albany | 12.40 | Fair. |
| 4489 | 16 | C. H. Smith & Co | Albany | 12.80 | Fair. |
| 4490 | 16 | C. H. Gaus | Albany | 13.90 | Fair. |
| 4491 | 16 | Wm. McAllaster | Albany | 11.10 | Inferior. |
| 4492 | 16 | J. D. Palmatier | Albany | 12.30 | Fair. |
| 4493 | 16 | A. B. Huested & Co | Albany | 12.20 | Fair. |
| 4494 | 16 | T. W. Nellis | Albany | 15.00 | Good. |
| 4495 | 16 | Wm. Sautter | Albany | 12.20 | Fair. |
| 4496 | 16 | F. H. Bassett | Albany | 13.30 | Fair. |
| 4497 | 16 | Est. of J. E. Miller | Albany | 13.00 | Fair. |
| 4524 | 18 | S. G. Bradt & Son | Albany | 14.00 | Fair. |
| 4525 | 18 | L. Sautter | Albany | 18.80 | Good. |
| 4526 | 18 | W. E. Masten | Albany | 13.40 | Fair. |
| 4527 | 18 | Wm. S. Elmendorf | Albany | 12.90 | Fair. |
| 4528 | 18 | L. H. Gaus | Albany | 11.80 | Inferior. (Labeled "Aromat. Spir. Ammonia.") |
| 4529 | 18 | Turner Bros | Albany | 13.80 | Fair. |
| 4530 | 18 | O. Scholz | Albany | 12.10 | Fair. |
| 4531 | 18 | J. W. Heller & Co | Albany | 25.00 | Good. |
| 4556 | 20 | T. J. Lewi | Albany | 14.40 | Fair. |
| 4557 | 20 | A. Gilbert | Albany | 11.30 | Inferior. |
| 4558 | 20 | M. W. Macomber | Albany | 13.40 | Fair. |

| | | | | | |
|---|---|---|---|---|---|
| [illegible] | 21 | [illegible] | [illegible] | [illegible] | [illegible] |
| 4812 | 21 | Brown & Dawson | Syracuse | 12.50 | Inferior. |
| 4813 | 21 | Dwight & Reed | Syracuse | 12.70 | Inferior. |
| 4814 | 21 | Fox & Dygert | Syracuse | 13.70 | Fair. |
| 4815 | 21 | Coogan & Quigley | Syracuse | 12.60 | Inferior. |
| 4816 | 21 | Fry & Martin | Syracuse | 14.00 | Fair. |
| 4817 | 21 | P. L. Ryan & Co. | Syracuse | 12.20 | Inferior. |
| 4818 | 21 | F. C. Joslyn & Co. | Syracuse | 12.10 | Inferior. |
| 4819 | 21 | E. B. Covert | Syracuse | 12.40 | Inferior. |
| 4820 | 21 | Smith & Dalton | Syracuse | 16.40 | Good. |
| 4821 | 21 | R. E. Smith | Syracuse | 13.00 | Inferior. |
| 4822 | 21 | Hanna & Coling | Syracuse | 13.90 | Fair. |
| 4823 | 21 | W. B. Bissell | Syracuse | 14.10 | Fair. |
| 4824 | 21 | E. L. Gleason | Syracuse | 11.60 | Inferior. |
| 4825 | 21 | C. W. Snow & Co. | Syracuse | 9.80 | Inferior. |
| 4826 | 21 | G. A. Heyne | Syracuse | 12.00 | Inferior. |
| 4827 | 21 | O. B. Heyne | Syracuse | 9.70 | Inferior. |
| 4828 | 21 | Wm. Muench | Syracuse | 13.10 | Inferior. |
| 4829 | 21 | G. W. Holloway | Syracuse | 12.90 | Inferior. |
| 4830 | 21 | O. P. Barnum | Syracuse | 14.90 | Fair. |
| 4831 | 21 | S. D. De Voe | Syracuse | 14.50 | Fair. |
| 4832 | 21 | J. M. Cummings | Syracuse | 11.50 | Inferior. |
| 4833 | 21 | F. E. Champlin & Co. | Syracuse | 14.90 | Fair. |
| 4834 | 21 | R. Bodden | Syracuse | 14.10 | Fair. |
| 4835 | 21 | W. B. Fuller | Syracuse | 14.40 | Fair. |
| 4836 | 21 | W. D. Tallman | Syracuse | 12.50 | Inferior. |
| 4837 | 21 | F. C. Joslyn & Co | Syracuse | 13.70 | Fair. |
| 4838 | 22 | Myers Bros. | Oneida | 15.30 | Fair. |
| 4839 | 22 | Herman & Campbell | Oneida | 9.60 | Inferior. |

## Aromatic Sulphuric Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4840 | March 22 | Harp & Lounsbery | Oneida | 13.60 | Fair. |
| 4841 | 22 | Brown & Drake | Oneida | 9.80 | Inferior. |
| 4842 | 22 | J. H. Cool | Oneida | 13.10 | Inferior. |
| 4843 | 23 | F. J. Hager & Co | Rome | 11.90 | Inferior. |
| 4844 | 23 | F. M. Hamlin | Rome | 13.50 | Fair. |
| 4845 | 23 | J. G. Bissell & Co | Rome | 13.50 | Fair. |
| 4846 | 23 | Broughton & Graves | Rome | 14.50 | Fair. |
| 4847 | 24 | F. T. Ray & Co | Utica | 13.30 | Inferior. |
| 4848 | 24 | J. B. McMillan | Utica | 14.00 | Fair. |
| 4849 | 24 | J. H. Sheehan & Co | Utica | 12.00 | Inferior. |
| 4850 | 24 | Howarth & Ballard | Utica | 11.90 | Inferior. |
| 4851 | 24 | J. W. Cone | Utica | 16.90 | Good. |
| 4852 | 24 | G. L. Hill | Utica | 9.50 | Inferior. |
| 4853 | 24 | Wm. Blaikie | Utica | 15.10 | Fair. |
| 4854 | 24 | Luce & Plumb | Utica | 11.40 | Inferior. |
| 4855 | 24 | E. E. Jones | Utica | 12.00 | Inferior. |
| 4856 | 24 | Wm. Howarth | Utica | 13.90 | Fair. |
| 4857 | 24 | J. B. Williams | Utica | 12.40 | Inferior. |
| 4858 | 24 | H. K. Preston | Utica | 13.80 | Fair. |
| 4859 | 24 | W. A. Teachout | Utica | 16.10 | Good. |
| 4860 | 25 | J. Donnelly | Amsterdam | 14.20 | Fair. |

romatic Sulphuric Acid — (*Acidum Sulphuricum Aromaticum, U. S. P.*).

Two hundred and eighty-nine samples examined, of which ere were, of good quality, twenty-nine; fair, ninety-three; erior, 167, or considerably more than half the number. This paration should contain, according to the pharmacopoeial uirement, "about twenty per cent of officinal sulphuric acid, tly in form of ethyl-sulphuric acid." The samples examd varied from 1.30 to 25.00 per cent of absolute acid, and refore all contained a very slightly higher percentage of offial acid. Samples containing from 16 to 25 per cent have n rated as of good quality; over 25 per cent, excessive ngth; from 13.5 to 16 per cent, fair; and under 13.5 per t, inferior quality. Particulars concerning the samples are ended.

## Aromatic Sulphuric Acid, U. S. P.

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4487 | March 16 | F. W. Schaefer | Albany | 16.30 | Good. |
| 4488 | 16 | E. F. Hunting | Albany | 12.40 | Fair. |
| 4489 | 16 | C. H. Smith & Co | Albany | 12.80 | Fair. |
| 4490 | 16 | C. H. Gaus | Albany | 13.90 | Fair. |
| 4491 | 16 | Wm. McAllaster | Albany | 11.10 | Inferior. |
| 4492 | 16 | J. D. Palmatier | Albany | 12.30 | Fair. |
| 4493 | 16 | A. B. Huested & Co | Albany | 12.20 | Fair. |
| 4494 | 16 | T. W. Nellis | Albany | 15.00 | Good. |
| 4495 | 16 | Wm. Sautter | Albany | 12.20 | Fair. |
| 4496 | 16 | F. H. Bassett | Albany | 13.30 | Fair. |
| 4497 | 16 | Est. of J. E. Miller | Albany | 13.00 | Fair. |
| 4524 | 18 | S. G. Bradt & Son | Albany | 14.00 | Fair. |
| 4525 | 18 | L. Sautter | Albany | 18.80 | Good. |
| 4526 | 18 | W. E. Masten | Albany | 13.40 | Fair. |
| 4527 | 18 | Wm. S. Elmendorf | Albany | 12.90 | Fair. |
| 4528 | 18 | L. H. Gaus | Albany | 11.80 | Inferior. (Labeled "Aromat. Spir. Ammonia.") |
| 4529 | 18 | Turner Bros | Albany | 12.80 | Fair. |
| 4530 | 18 | O. Scholz | Albany | 12.10 | Fair. |
| 4531 | 18 | J. W. Heller & Co | Albany | 25.00 | Good. |
| 4556 | 20 | T. J. Lewi | Albany | 14.40 | Fair. |
| 4557 | 20 | A. Gilbert | Albany | 11.30 | Inferior. |
| 4558 | 20 | M. W. Macomber | Albany | 13.40 | Fair. |

| | | | | | |
|---|---|---|---|---|---|
| 5593 | 22 | R. W. Chambers & Co | Rochester | 11.00 | Inferior. |
| 5594 | 22 | N. Barrowclough | Rochester | 12.20 | Inferior. |
| 5595 | 22 | J. P. Irish | Rochester | 17.50 | Good. |
| 5596 | 22 | G. Hahn | Rochester | 13.50 | Inferior. |
| 5597 | 22 | S. A. Merriam | Rochester | 15.90 | Fair. |
| 5598 | 22 | L. Wyeth | Rochester | 15.30 | Fair. |
| 5599 | 22 | L. Klinzing | Rochester | 12.40 | Inferior. |
| 5600 | 22 | Wm. H. Gilmore | Rochester | 13.20 | Inferior. |
| 5601 | 22 | G. Mannel | Rochester | 12.30 | Inferior. |
| 5602 | 22 | F. Kobbe | Rochester | 12.20 | Inferior. |
| 5603 | 22 | G. W. Johns | Rochester | 14.40 | Fair. |
| 5604 | 22 | C. W. Waegner | Rochester | 13.20 | Inferior. |
| 5605 | 22 | M. Levin | Rochester | 13.70 | Fair. |
| 5606 | 22 | W. W. Steele | Rochester | 12.20 | Inferior. |
| 5607 | 23 | J. C. Lung | Rochester | 10.30 | Inferior. |
| 5608 | 23 | C. H. Gauger | Rochester | 12.70 | Inferior. |
| 5609 | 23 | T. M. Stewart | Rochester | 12.00 | Inferior. |
| 5610 | 23 | Craig & Vanderbelt | Rochester | 12.30 | Inferior. |
| 5611 | 23 | C. F. Maid | Rochester | 12.80 | Inferior. |
| 5612 | 23 | F. W. Jackson & Co | Rochester | 12.40 | Inferior. |
| 5613 | 23 | A. C. Dempsey | Rochester | 19.80 | Good. |
| 5614 | 23 | W. A. Barber | Rochester | 16.80 | Good. |
| 5615 | 23 | J. M. Schmitt | Rochester | 12.60 | Inferior. |
| 5616 | 23 | F. L. Hewitt | Rochester | 13.20 | Inferior. |
| 5617 | 23 | F. S. Mason | Rochester | 16.80 | Good. |
| 5618 | 23 | J. F. Burkard | Rochester | 12.40 | Inferior. |
| 5619 | 23 | F. L. Zimmerman | Rochester | 14.70 | Fair. |
| 5620 | 24 | J. W. Rushmore | Palmyra | 11.60 | Inferior. |
| 5621 | 24 | N. R. Gardner | Palmyra | 13.00 | Inferior. |
| 5622 | 24 | B. H. Davis & Co | Palmyra | 16.30 | Good. |
| 5623 | 24 | R. E. Morse & Son | Newark | 11.10 | Inferior. |

## Aromatic Sulphuric Acid, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5624 | May 24 | Wm. H. Kelley | Newark | 13.70 | Fair. |
| 5625 | 24 | M. H. Dillenbeck | Lyons | 7.20 | Inferior. |
| 5626 | 24 | G. W. Getman | Lyons | 14.20 | Fair. |
| 5627 | 24 | Moore & Moore | Lyons | 16.30 | Good. |
| 5628 | 24 | G. W. Koester | Lyons | 12.90 | Inferior. |
| 5629 | 25 | C. A. Sherman | Clyde | 12.30 | Inferior. |
| 5630 | 25 | Freeman & Martin | Clyde | 17.60 | Good. |
| 5631 | 25 | P. Merrill & Son | Clyde | 15.20 | Fair. |
| 6087 | July. 17 | A. J. Fellows | Chatham | 15.90 | Fair. |
| 6088 | 17 | H. J. Baringer Jr | Chatham | 12.40 | Inferior. |
| 6089 | 17 | C. S. Hanks | Hudson | 12.00 | Inferior. |
| 6090 | 17 | A. McKinstry & Son | Hudson | 13.00 | Inferior. |
| 6091 | 17 | Van Tassel & Tobey | Hudson | 13.30 | Inferior. |
| 6092 | 17 | J. M. Johnson | Hudson | 12.40 | Inferior. |
| 6093 | 17 | Rice Bros | Hudson | 12.30 | Inferior. |
| 6094 | 17 | B. Stedman | Hudson | 14.50 | Fair. |
| 6095 | 17 | A. Clark | Poughkeepsie | 7.90 | Inferior. |
| 6096 | 17 | J. V. Humphrey | Poughkeepsie | 15.60 | Fair. |
| 6097 | 17 | C. S. Bowne | Poughkeepsie | 15.20 | Fair. |
| 6098 | 17 | F. R. Bolton | Poughkeepsie | 12.40 | Inferior. |
| 6099 | 17 | Strickler & Schwartz | Poughkeepsie | 15.50 | Fair. |

| | | | | | |
|---|---|---|---|---|---|
| 6102 | 17 | J. Wilkinson | Poughkeepsie | 12.80 | Inferior. |
| 6103 | 17 | A. A. & J. W. Goetchins | Poughkeepsie | 13.10 | Inferior. |
| 6104 | 18 | F. Loughran | Fishkill | 14.00 | Fair. |
| 6105 | 18 | S. Mapes | Fishkill | 14.20 | Fair. |
| 6106 | 18 | Merritts' Drug Store | Fishkill | 9.50 | Inferior. |
| 6107 | 18 | B. F. Greene | Matteawan | 13.20 | Inferior. |
| 6108 | 18 | H. Tate | Peekskill | 15.80 | Fair. |
| 6109 | 18 | Griffin & Lent | Peekskill | 13.50 | Fair. |
| 6110 | 18 | T. S. Boyd | Peekskill | 21.80 | Good. |
| 6111 | 18 | C. E. Gregory | Peekskill | 12.50 | Inferior. |
| 6112 | 18 | F. A. Grenzebach | Peekskill | 15.80 | Fair. |
| 6113 | 18 | H. H. Lane | Peekskill | 12.20 | Inferior. |
| 6114 | 18 | J. C. Russell | Sing Sing | 13.00 | Inferior. |
| 6115 | 18 | J. A. Hart | Sing Sing | 12.30 | Inferior. |
| 6116 | 18 | S. O. Washburne | Sing Sing | 13.70 | Fair. |
| 6117 | 19 | J. Stahl, Jr | Yonkers | 13.20 | Inferior. |
| 6118 | 19 | T. A. Walsh | Yonkers | 12.50 | Inferior. |
| 6119 | 19 | G. B. Wray | Yonkers | 17.60 | Good. |
| 6120 | 19 | E. Spock | Yonkers | 15.00 | Fair. |
| 6121 | 19 | J. W. Wickersham | Yonkers | 11.40 | Inferior. |
| 6122 | 19 | E. A. Houston | Yonkers | 9.90 | Inferior. |
| 6123 | 19 | J. B. Brouwer | Yonkers | 13.00 | Inferior. |
| 6124 | 19 | J. T. Lennon | Yonkers | 13.20 | Inferior. |
| 6125 | 19 | L. J. Schlesinger | Yonkers | 13.30 | Inferior. |
| 6126 | 19 | A. Van Houten | Yonkers | 15.70 | Fair. |
| 6127 | 19 | F. Olivet | Mt. Vernon | 13.90 | Fair. |
| 6128 | 19 | C. E. Penfield | Mt. Vernon | 12.60 | Inferior. |
| 6129 | 19 | E. Laviolette | Mt. Vernon | 15.30 | Fair. |
| 6130 | 19 | A. Richter & Co | Mt. Vernon | 12.20 | Inferior. |
| 6131 | 19 | A. H. Lins | Mt. Vernon | 13.20 | Inferior. |
| 6132 | 19 | T. F. Hunt | Mt. Vernon | 12.10 | Inferior. |

## Aromatic Sulphuric Acid, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6133 | July 19 | F. W. Carlisle | Mt. Vernon | 13.10 | Inferior. |
| 6134 | 19 | Gill's Pharmacy | Mt. Vernon | 12.20 | Inferior. |
| 6135 | 19 | F. H. Nowill | White Plains | 23.90 | Good. |
| 6762 | October 18 | L. B. Campbell | Binghamton | 18.10 | Good. |
| 6763 | 18 | N. W. Waldron | Binghamton | 15.00 | Fair. |
| 6764 | 18 | H. A. Smith | Binghamton | 13.10 | Inferior. |
| 6765 | 18 | Otis Bros | Binghamton | 12.20 | Inferior. |
| 6766 | 18 | P. W. Cunningham | Binghamton | 17.50 | Good. |
| 6767 | 18 | Williams & Anderson | Binghamton | 12.30 | Inferior. |
| 6768 | 18 | Rourke Bros | Binghamton | 14.10 | Fair. |
| 6769 | 18 | J. Schnell | Binghamton | 12.30 | Inferior. |
| 6770 | 18 | E. J. Bodle & Co | Binghamton | 13.50 | Fair. |
| 6771 | 19 | E. L. Ostrom | Binghamton | 11.90 | Inferior. |
| 6772 | 19 | C. H. Loveland | Binghamton | 12.10 | Inferior. |
| 6773 | 19 | A. H. Gaige | Binghamton | 11.20 | Inferior. |
| 6774 | 19 | Anderson & Wilcox | Owego | 12.70 | Inferior. |
| 6775 | 19 | J. C. Kenyon | Owego | 12.80 | Inferior. |
| 6776 | 19 | E. A. Starkey | Owego | 14.60 | Fair. |
| 6777 | 19 | F. M. Humiston | Owego | 12.00 | Inferior. |
| 6778 | 19 | H. H. Hayes & Son | Waverly | 12.30 | Inferior. |
| 6779 | 19 | E. J. Neaves | Waverly | 11.80 | Inferior. |

| | | | | | |
|---|---|---|---|---|---|
| | | [illegible] | Waverly | 12.00 | Inferior. |
| | | [illegible] | Waverly | 12.00 | Inferior. |
| 6782 | 20 | G. T. Reed & Co | Hornellsville | 12.30 | Inferior. |
| 6783 | 20 | Robertson & Luther | Hornellsville | 11.30 | Inferior. |
| 6784 | 20 | C. H. Young | Hornellsville | 12.00 | Inferior. |
| 6785 | 20 | G. T. Reed & Co | Hornellsville | 12.00 | Inferior. |
| 6786 | 20 | H. G. Pierson | Hornellsville | 13.70 | Fair. |
| 6787 | 20 | A. S. Van Winkle | Hornellsville | 12.80 | Inferior. |
| 6788 | 20 | J. W. Bachman | Hornellsville | 20.60 | Good. |
| 6789 | 20 | Heermans & Co | Corning | 14.40 | Fair. |
| 6790 | 20 | A. B. Holmes | Corning | 14.40 | Fair. |
| 6791 | 20 | R. W. Terbell | Corning | 13.90 | Fair. |
| 6792 | 20 | W. J. Marsh | Corning | 13.00 | Inferior. |
| 6793 | 20 | Cole & Mathews | Corning | 9.10 | Inferior. |
| 6794 | 20 | Bryan Bros | Corning | 13.50 | Fair. |
| 6795 | 20 | C. S. & F. Ingraham | Elmira | 13.40 | Inferior. |
| 6796 | 20 | Wm. R. W. Pound | Elmira | 11.80 | Inferior. |
| 6797 | 20 | M. H. Davis | Elmira | 13.60 | Fair. |
| 6798 | 20 | E. A. Smith | Elmira | 25.00 | Good. |
| 6799 | 20 | T. S. Flood | Elmira | 13.50 | Fair. |
| 6800 | 20 | C. P. Pettit | Elmira | 11.40 | Inferior. |
| 6801 | 20 | J. Meyer, Jr | Elmira | 13.00 | Inferior. |
| 6802 | 20 | Gerity Bros | Elmira | 11.60 | Inferior. |
| 6803 | 20 | C. W. Biggs & Co | Elmira | 11.40 | Inferior. |
| 6804 | 20 | F. B. Parke | Elmira | 12.70 | Inferior. |
| 6805 | 20 | Hooker & Dorr | Elmira | 1.30 | Inferior. |
| 6806 | 20 | A. S. Hamilton | Elmira | 11.60 | Inferior. |
| 6807 | 20 | A. C. Rowland | Elmira | 13.20 | Inferior. |
| 6808 | 21 | H. L. Haskin | Ithaca | 12.30 | Inferior. |
| 6809 | 21 | White & Burdick | Ithaca | 10.20 | Inferior. |
| 6810 | 21 | A. B. Brooks | Ithaca | 12.30 | Inferior. |
| 6811 | 21 | S. Grant | Ithaca | 13.80 | Fair. |
| 6812 | 21 | Platt & Colt | Ithaca | 13.50 | Fair. |

## Aromatic Sulphuric Acid, U. S. P.—(*Concluded*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6813 | October 21 | J. B. Todd | Ithaca | 13.40 | Inferior. |
| 6814 | 21 | Baker & Warren | Ithaca | 19.70 | Good. |
| 6815 | 21 | McClune & Fisher | Ithaca | 21.60 | Good. |
| 6816 | 21 | Sager & Jennings | Cortland | 12.00 | Inferior. |
| 6817 | 21 | C. F. Brown | Cortland | 12.50 | Inferior. |
| 6818 | 21 | Fitz, Boynton & Co | Cortland | 15.80 | Fair. |
| 6819 | 21 | F. E. Brogden | Cortland | 12.40 | Inferior. |
| 6820 | 21 | F. I. Graham | Cortland | 15.60 | Fair. |
| 6821 | 21 | G. W. Bradford | Cortland | 13.50 | Fair. |
| 6822 | 21 | C. F. Brown | Cortland | 20.70 | Good. |
| 6823 | 23 | D. H. Van Heusen | Johnstown | 12.20 | Inferior. |
| 6824 | 23 | W. B. Van Vliet | Johnstown | 12.50 | Inferior. |
| 6825 | 23 | Sutliff & Livingston | Johnstown | 14.30 | Fair. |
| 6826 | 23 | J. F. Cahill | Johnstown | 12.90 | Inferior. |
| 6827 | 23 | C. E. Purington & Co. | Johnstown | 12.30 | Inferior. |
| 6828 | 23 | G. A. Cole | Gloversville | 12.50 | Inferior. |
| 6829 | 23 | J. A. Miller & Co | Gloversville | 13.40 | Inferior. |
| 6830 | 23 | J. B. Stone | Gloversville | 14.10 | Fair. |
| 6831 | 23 | Houck & Patrick | Gloversville | 12.00 | Inferior. |
| 6832 | 23 | J. T. Avery & Co | Gloversville | 11.40 | Inferior. |

centage of officinal acid than indicated by the figures in the tables. For standards employed in rating this acid, see under diluted hydrochloric acid. The following table gives a description of the samples examined:

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4746 | March 21 | Brown & Dawson | Syracuse | 9.10 | Good. |
| 4747 | 21 | Dwight & Reed | Syracuse | 8.70 | Fair. |
| 4748 | 21 | Fox & Dygert | Syracuse | 12.50 | Good. |
| 4749 | 21 | Coogan & Quigley | Syracuse | 9.90 | Good. |
| 4750 | 21 | P. L. Ryan & Co | Syracuse | 8.50 | Fair. |
| 4751 | 21 | Fry & Martin | Syracuse | 8.10 | Fair. |
| 4752 | 21 | F. C. Joslyn & Co | Syracuse | 10.80 | Good. |
| 4753 | 21 | Smith & Dalton | Syracuse | 9.80 | Good. |
| 4754 | 21 | R. E. Smith | Syracuse | 9.20 | Good. |
| 4755 | 21 | Hanna & Coling | Syracuse | 11.30 | Good. |
| 4756 | 21 | W. B. Bissell | Syracuse | 9.40 | Good. |
| 4757 | 21 | E. L. Gleason | Syracuse | 8.20 | Fair. |
| 4758 | 21 | C. W. Snow & Co | Syracuse | 19.80 | Excessive strength. |
| 4759 | 21 | G. A. Heyne | Syracuse | 8.90 | Fair. |
| 4760 | 21 | O. B. Heyne | Syracuse | 12.30 | Good. |

## Diluted Sulphuric Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 4761 | March 21 | Wm. Muench | Syracuse | 10.40 | Good. |
| 4762 | 21 | G. W. Holloway | Syracuse | 9.10 | Good. |
| 4763 | 21 | O. P. Barnum | Syracuse | 18.10 | Excessive strength. |
| 4764 | 21 | S. D. De Voe | Syracuse | 9.80 | Good. |
| 4765 | 21 | J. M. Cummings | Syracuse | 16.90 | Excessive strength. |
| 4766 | 21 | F. E. Champlin & Co | Syracuse | 9.80 | Good. |
| 4767 | 21 | R. Bodden | Syracuse | 10.70 | Good. |
| 4768 | 21 | D. Derby | Syracuse | 12.40 | Good. |
| 4769 | 21 | W. B. Fuller | Syracuse | 10.30 | Good. |
| 4770 | 21 | W. D. Tallman | Syracuse | 14.20 | Excessive strength. |
| 4771 | 21 | F. C. Joslyn & Co | Syracuse | 9.00 | Good. |
| 4772 | 21 | L. D. Korb | Syracuse | 10.50 | Good. |
| 4773 | 22 | Myers Bros. | Oneida | 8.30 | Fair. |
| 4774 | 22 | Harp & Lounsbery | Oneida | 9.10 | Good. |
| 4775 | 22 | Brown & Drake | Oneida | 10.60 | Good. |
| 4776 | 22 | J. H. Cool | Oneida | 13.30 | Excessive strength. |
| 4777 | 23 | F. J. Hager & Co | Rome | 9.60 | Good. |
| 4778 | 23 | F. M. Hamlin & Co | Rome | 11.10 | Good. |
| 4779 | 23 | J. G. Bissell & Co | Rome | 9.80 | Good. |
| 4780 | 23 | Brouton & Graves | Rome | 8.40 | Fair. |
| 4781 | 24 | F. T. Ray & Co | Utica | 11.30 | Good. |
| | | | Utica | 9.90 | Good. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 4784 | | 24 | Howarth & Ballard | Utica | 9.80 | Good. |
| 4785 | | 24 | J. W. Cone | Utica | 9.80 | Good. |
| 4786 | | 24 | G. L. Hill | Utica | 15.20 | Excessive strength. |
| 4787 | | 24 | Wm. Blaikie | Utica | 10.60 | Good. |
| 4788 | | 24 | Luce & Plumb | Utica | 10.10 | Good. |
| 4789 | | 24 | E. E. Jones | Utica | 13.10 | Excessive strength. |
| 4790 | | 24 | Wm. Howarth | Utica | 10.50 | Good. |
| 4791 | | 24 | J. B. Williams | Utica | 10.00 | Good. |
| 4792 | | 24 | H. K. Preston | Utica | 11.40 | Good. |
| 4793 | | 24 | W. A. Teachout | Utica | 9.00 | Good. |
| 4794 | | 25 | G. H. Ingraham | Amsterdam | 9.50 | Good. |
| 4795 | | 25 | Bradford & Dickinson | Amsterdam | 9.50 | Good. |
| 4796 | | 25 | M. W. Reid | Amsterdam | 10.10 | Good. |
| 4797 | | 25 | E. W. Clark | Amsterdam | 9.90 | Good. |
| 4798 | | 25 | C. W. Stricker | Amsterdam | 14.50 | Excessive strength. |
| 4799 | | 25 | Powell & Gilbert | Amsterdam | 6.90 | Inferior. |
| 4800 | | 25 | N. C. Becker | Amsterdam | 9.60 | Good. |
| 4801 | | 25 | J. V. Riggs | Amsterdam | 10.90 | Good. |
| 4802 | | 25 | J. A. Barkhuff | Amsterdam | 9.90 | Good. |
| 4803 | | 25 | C. H. Horstmann | Schenectady | 8.90 | Fair. |
| 4804 | | 25 | E. Rosa | Schenectady | 10.60 | Good. |
| 4805 | | 25 | A. T. Veeder & Son | Schenectady | 10.50 | Good. |
| 4806 | | 25 | G. Steinfuhrer | Schenectady | 9.50 | Good. |
| 4807 | | 25 | J. T. Lyon | Schenectady | 9.40 | Good. |
| 4808 | | 25 | Wm. Sautter | Schenectady | 9.60 | Good. |
| 4809 | | 25 | G. E. Duryee | Schenectady | 10.20 | Good. |
| 4810 | | 25 | H. S. Moore | Schenectady | 9.80 | Good. |
| 4811 | | 21 | E. B. Covert | Syracuse | ..... | Good. |
| 5632 | May | 17 | F. S. Smith | Auburn | 8.40 | Fair. |
| 5633 | | 17 | A. Z. Wright | Auburn | 9.50 | Good. |
| 5634 | | 17 | C. B. Sears | Auburn | 9.10 | Good. |

## Diluted Sulphuric Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 5635 | May 17 | A. H. Hamilton | Auburn | 8.50 | Fair. |
| 5636 | 17 | J. L. Elliott | Auburn | 8.60 | Fair. |
| 5637 | 17 | L. Hunt | Auburn | 12.00 | Good. |
| 5638 | 17 | Wickes & Fraser | Auburn | 10.20 | Good. |
| 5639 | 17 | C. H. Sagar Co | Auburn | 19.30 | Excessive strength. |
| 5640 | 17 | M. L. Walley & Co | Auburn | 9.80 | Good. |
| 5641 | 17 | H. L. Adams | Auburn | 11.20 | Good. |
| 5642 | 17 | T. B. Sharp & Sons | Seneca Falls | 9.90 | Good. |
| 5643 | 17 | Casey & Seaman | Seneca Falls | 10.00 | Good. |
| 5644 | 17 | P. Van Kleeck | Seneca Falls | 7.70 | Fair. |
| 5645 | 17 | Crobaugh & Marsden | Waterloo | 11.60 | Good. |
| 5646 | 17 | R. G. Smith & Son | Waterloo | 9.90 | Good. |
| 5647 | 18 | M. Barkman | Geneva | 20.50 | Excessive strength. |
| 5648 | 18 | J. A. Zobrist | Geneva | 29.70 | Excessive strength. |
| 5649 | 18 | W. H. Partridge | Geneva | 16.20 | Excessive strength. |
| 5650 | 18 | Haviland & Hennip | Geneva | 9.70 | Good. |
| 5651 | 18 | A. L. Sweet | Geneva | 10.40 | Good. |
| 5652 | 18 | E. W. Simmons | Canandaigua | 9.10 | Good. |
| 5653 | 18 | Pierson & Benham | Canandaigua | 14.00 | Excessive strength. |
| 5654 | 18 | A. D. Paul & Co | Canandaigua | 11.20 | Good. |
| 5655 | 19 | Curran & Goler | Rochester | 9.50 | Good. |
| | | O. J. & J. A. Bryan | Rochester | 10.10 | Good. |

| | | | | | |
|---|---|---|---|---|---|
| 5659 | 19 | C. H. Althaus | Rochester | 9.90 | Good. |
| 5660 | 20 | Scofield & Barker | Rochester | 9.00 | Good. |
| 5661 | 20 | Hyde & Paige | Rochester | 9.40 | Good. |
| 5662 | 20 | Dake Bros. Drug Co | Rochester | 5.10 | Inferior. |
| 5663 | 20 | J. & J. Cooper | Rochester | 10.90 | Good. |
| 5664 | 20 | A. R. Mandeville & Co. | Rochester | 13.50 | Excessive strength. |
| 5665 | 20 | A. M. Dixon & Co. | Rochester | 8.00 | Fair. |
| 5666 | 20 | E. Fellman | Rochester | 8.90 | Fair. |
| 5667 | 20 | W. W. Steele | Rochester | 9.20 | Good. |
| 5668 | 22 | Ballard & Hurlburt | Rochester | 9.70 | Good. |
| 5669 | 22 | W H. Crippen | Rochester | 8.60 | Fair. |
| 5670 | 22 | A. B. Chamberlain | Rochester | 11.90 | Good. |
| 5671 | 22 | R. J. Strasenburgh | Rochester | 10.30 | Good. |
| 5672 | 22 | J. R. Post & Co. | Rochester | 9.10 | Good. |
| 5673 | 22 | E. H. Davis & Co. | Rochester | 11.00 | Good. |
| 5674 | 22 | R. W Chambers & Co | Rochester | 10.30 | Good. |
| 5675 | 22 | G. Hahn | Rochester | 8.40 | Fair. |
| 5676 | 22 | S. A Merriam | Rochester | 7.70 | Fair. |
| 5677 | 22 | L. Wyeth | Rochester | 17.70 | Excessive strength. |
| 5678 | 22 | L. Klinzing | Rochester | 17.50 | Excessive strength. |
| 5679 | 22 | W. H. Gilmore | Rochester | 9.60 | Good. |
| 5680 | 22 | G. Mannel | Rochester | 9.70 | Good. |
| 5681 | 22 | F. Kobbe | Rochester | 17.20 | Excessive strength. |
| 5682 | 22 | G. W. Johns | Rochester | 20.90 | Excessive strength. |
| 5683 | 22 | C. W. Waegner | Rochester | 8.60 | Fair. |
| 5684 | 23 | W. W. Steele | Rochester | 10.10 | Good. |
| 5685 | 23 | J. C. Lung | Rochester | 8.80 | Fair. |
| 5686 | 23 | C. H. Gauger | Rochester | 9.20 | Good. |
| 5687 | 23 | T. M. Stewart | Rochester | 13.10 | Excessive strength. |
| 5688 | 23 | Craig & Vanderbelt | Rochester | 16.70 | Excessive strength. |
| | | C. F. Maid | | | |

## Diluted Sulphuric Acid, U. S. P. — (*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1883. | | | | |
| 5689 | May 23 | F. W. Jackson & Co. | Rochester | 18.20 | Excessive strength. |
| 5690 | 23 | A. C. Dempsey | Rochester | 9.00 | Good. |
| 5691 | 23 | W. A. Barber | Rochester | 9.90 | Good. |
| 5692 | 23 | J. M. Schmitt | Rochester | 10.30 | Good. |
| 5693 | 23 | F. S. Mason | Rochester | 9.40 | Good. |
| 5694 | 23 | J. F. Burkard | Rochester | 9.60 | Good. |
| 5695 | 23 | F. L. Zimmerman | Rochester | 6.70 | Inferior. |
| 5696 | 24 | J. W. Rushmore | Palmyra | 9.80 | Good. |
| 5697 | 24 | R. E. Morse & Son | Newark | 9.60 | Good. |
| 5698 | 24 | M. H. Dillenbeck | Lyons | 2.80 | Inferior. |
| 5699 | 24 | G. W. Getman | Lyons | 13.40 | Excessive strength. |
| 5700 | 24 | Moore & Moore | Lyons | 9.30 | Good. |
| 5701 | 24 | G. W. Koester | Lyons | 9.70 | Good. |
| 5702 | 25 | C. A. Sherman | Clyde | 19.80 | Excessive strength. |
| 5703 | 25 | Freeman & Martin | Clyde | 13.30 | Excessive strength. |
| 5704 | 25 | P. Merrill & Son | Clyde | 10.10 | Good. |
| 5705 | 25 | F. H. Terry | Clyde | 11.10 | Good. |
| 6282 | July 17 | A. J. Fellows | Chatham | 9.30 | Good. |
| 6283 | 17 | H. J. Baringer, Jr. | Chatham | 8.00 | Fair. |
| 6284 | 17 | C. S. Hanks | Hudson | 11.30 | Good. |
| 6285 | 17 | A. McKinstry & Son | Hudson | 9.60 | Good. |
| 6286 | 17 | Van Tassel & Tobey | Hudson | 10.40 | Good. |

| | | | | | |
|---|---|---|---|---|---|
| 6288 | 17 | Rice Bros | Hudson | 9.10 | Good. |
| 6289 | 17 | B. Stedman | Hudson | 8.90 | Fair. |
| 6290 | 17 | Wardle & Son | Hudson | 9.20 | Good. |
| 6291 | 17 | A. Clark | Poughkeepsie | 13.30 | Excessive strength. |
| 6292 | 17 | G. L. Brown | Poughkeepsie | 12.70 | Excessive strength. |
| 6293 | 17 | J. V. Humphrey | Poughkeepsie | 9.50 | Good. |
| 6294 | 17 | Doty & Humphrey | Poughkeepsie | 12.30 | Good. |
| 6295 | 17 | C. S. Bowne | Poughkeepsie | 9.50 | Good. |
| 6296 | 17 | F. R. Bolton | Poughkeepsie | 17.80 | Excessive strength. |
| 6297 | 17 | Strickler & Schwartz | Poughkeepsie | 11.60 | Good. |
| 6298 | 17 | Wood & Tittamer | Poughkeepsie | 9.70 | Good. |
| 6299 | 17 | Barnes Bros. | Poughkeepsie | 10.20 | Good. |
| 6300 | 17 | C. Westervelt | Poughkeepsie | 10.70 | Good. |
| 6301 | 17 | J. Wilkinson | Poughkeepsie | 8.60 | Fair. |
| 6302 | 17 | T. W. Roberts | Poughkeepsie | 11.00 | Good. |
| 6303 | 17 | A. A. & J. W. Goetchins | Poughkeepsie | 9.90 | Good. |
| 6304 | 18 | F. Loughran | Fishkill | 10.50 | Good. |
| 6305 | 18 | S. Mapes | Fishkill | 9.30 | Good. |
| 6306 | 18 | Merritt's Drug Store | Fishkill | 8.00 | Fair. |
| 6307 | 18 | B. F. Greene | Matteawan | 9.70 | Good. |
| 6308 | 18 | H. Tate | Peekskill | 10.70 | Good. |
| 6309 | 18 | Griffin & Lent | Peekskill | 7.10 | Inferior. |
| 6310 | 18 | F. A. Grenzebach | Peekskill | 9.60 | Good. |
| 6311 | 18 | H. H. Lane | Peekskill | 11.60 | Good. |
| 6312 | 18 | T. A. Whitney | Peekskill | 9.40 | Good. |
| 6313 | 18 | J. C. Russell | Sing Sing | 9.00 | Good. |
| 6314 | 18 | J. A. Hart | Sing Sing | 9.30 | Good. |
| 6315 | 18 | S. O. Washburne | Sing Sing | 11.80 | Good. |
| 6316 | 19 | J. Stahl, Jr | Yonkers | 15.70 | Excessive strength. |
| 6317 | 19 | T. A. Walsh | Yonkers | 9.90 | Good. |
| 6318 | 19 | G. B. Wray | Yonkers | 11.20 | Good. |

## Diluted Sulphuric Acid, U. S. P. —(*Continued.*)

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6319 | July 19 | E. Spock | Yonkers | 8.70 | Fair. |
| 6320 | 19 | J. W. Wickersham | Yonkers | 9.30 | Good. |
| 6321 | 19 | E. A. Houston | Yonkers | 9.40 | Good. |
| 6322 | 19 | J. B. Browner | Yonkers | 12.20 | Good. |
| 6323 | 19 | J. T. Lennon | Yonkers | 9.60 | Good. |
| 6324 | 19 | L. J. Schlesinger | Yonkers | 8.30 | Fair. |
| 6325 | 19 | A. Van Houten | Yonkers | 9.10 | Good. |
| 6326 | 19 | F. Olivet | Mt. Vernon | 10.20 | Good. |
| 6327 | 19 | C. E. Penfield | Mt. Vernon | 9.90 | Good. |
| 6328 | 19 | E. Laviolette | Mt. Vernon | 9.70 | Good. |
| 6329 | 19 | A. Richter & Co | Mt. Vernon | 10.40 | Good. |
| 6330 | 19 | A. H. Lins | Mt. Vernon | 14.60 | Excessive strength. |
| 6331 | 19 | Gill's Pharmacy | Mt. Vernon | 10.60 | Good. |
| 6332 | 19 | F. H. Nowill | White Plains | 9.40 | Good. |
| 6333 | 19 | J. W. Stafford | White Plains | 16.60 | Excessive strength. |
| 6695 | October 18 | N. W. Waldron | Binghamton | 10.00 | Good. |
| 6696 | 18 | H. A. Smith | Binghamton | 8.90 | Fair. |
| 6697 | 18 | Dean & Guilfoyle | Binghamton | 9.90 | Good. |
| 6698 | 18 | P. W. Cunningham | Binghamton | 9.70 | Good. |
| 6699 | 18 | Williams & Anderson | Binghamton | 10.60 | Good. |
| | | Rourke Bros | Binghamton | | Good. |

| | | | | | |
|---|---|---|---|---|---|
| 6704 | 18 | E. J. Bodle & Co | Binghamton | 19.90 | Excessive strength. |
| 6705 | 19 | E. L. Ostrom | Binghamton | 7.40 | Inferior. |
| 6706 | 19 | C. H. Loveland | Binghamton | 12.30 | Good. |
| 6707 | 19 | A. H. Gaige | Binghamton | 10.00 | Good. |
| 6708 | 19 | Anderson & Wilcox | Owego | 4.40 | Inferior. |
| 6709 | 19 | Beach & Parmelee | Owego | 10.40 | Good. |
| 6710 | 19 | J. C. Kenyon | Owego | 10.80 | Good. |
| 6711 | 19 | E. A. Starkey | Owego | 21.00 | Excessive strength. |
| 6712 | 19 | F. M. Humiston | Owego | 9.60 | Good. |
| 6713 | 19 | H. H. Hayes & Son | Waverly | 17.00 | Excessive strength. |
| 6714 | 19 | E. J. Neaves | Waverly | 14.50 | Excessive strength. |
| 6715 | 19 | J. C. Van Atta | Waverly | 11.30 | Good. |
| 6716 | 19 | A Mullock | Waverly | 9.00 | Good. |
| 6717 | 20 | G. T. Reed & Co | Hornellsville | 10.20 | Good. |
| 6718 | 20 | Robertson & Luther | Hornellsville | 7.00 | Inferior. |
| 6719 | 20 | C. H. Young | Hornellsville | 7.60 | Fair. |
| 6720 | 20 | G. T. Reed & Co | Hornellsville | 9.40 | Good. |
| 6721 | 20 | H. G. Pierson | Hornellsville | 17.50 | Excessive strength. |
| 6722 | 20 | A. S. Van Winkle | Hornellsville | 9.80 | Good. |
| 6723 | 20 | J. W. Bachman | Hornellsville | 20.20 | Excessive strength. |
| 6724 | 20 | Heermans & Co | Corning | 14.90 | Excessive strength. |
| 6725 | 20 | A. B. Holmes | Corning | 10.40 | Good. |
| 6726 | 20 | R. W. Terbell | Corning | 10.20 | Good. |
| 6727 | 20 | W. J. Marsh | Corning | 13.70 | Excessive strength. |
| 6728 | 20 | Cole & Mathews | Corning | 9.20 | Good. |
| 6729 | 20 | C. S. & F. Ingraham | Elmira | 9.50 | Good. |
| 6730 | 20 | Wm. R. W. Pound | Elmira | 11.70 | Good. |
| 6731 | 20 | M. H. Davis | Elmira | 9.70 | Good. |
| 6732 | 20 | E. A. Smith | Elmira | 7.60 | Fair. |
| 6733 | 20 | J. Meyer, Jr | Elmira | 7.40 | Inferior. |
| | 20 | Gerity Bros | Elmira | 10.00 | Good. |

## Diluted Sulphuric Acid, U. S. P.—(*Continued*).

| Number of sample. | Date of collection. | OF WHOM PURCHASED. | Where purchased. | Per cent absolute acid. | Quality. |
|---|---|---|---|---|---|
| | 1893. | | | | |
| 6734 | October 20 | C. W. Biggs & Co | Elmira | 9.80 | Good. |
| 6735 | 20 | F. B. Parke | Elmira | 8.50 | Fair. |
| 6736 | 20 | Hooker & Dorr | Elmira | 9.60 | Good. |
| 6737 | 20 | A. S. Hamilton | Elmira | 19.30 | Excessive strength. |
| 6738 | 20 | A. C. Roland | Elmira | 13.80 | Excessive strength. |
| 6739 | 21 | H. L. Haskin | Ithaca | 9.30 | Good. |
| 6740 | 21 | White & Burdick | Ithaca | 10.60 | Good. |
| 6741 | 21 | A. B. Brooks | Ithaca | 9.90 | Good. |
| 6742 | 21 | S. Grant | Ithaca | 10.50 | Good. |
| 6743 | 21 | Pratt & Colt | Ithaca | 11.00 | Good. |
| 6744 | 21 | J. B. Todd | Ithaca | 8.50 | Fair. |
| 6745 | 21 | Baker & Warren | Ithaca | 9.40 | Good. |
| 6746 | 21 | McClune & Fisher | Ithaca | 9.90 | Good. |
| 6747 | 21 | Sager & Jennings | Cortland | 8.60 | Fair. |
| 6748 | 21 | C. F. Brown | Cortland | 8.60 | Fair. |
| 6749 | 21 | Fitz, Boynton & Co | Cortland | 6.30 | Inferior. |
| 6750 | 21 | F. E. Brogden | Cortland | 18.00 | Excessive strength. |
| 6751 | 21 | F. I. Graham | Cortland | 10.70 | Good. |
| 6752 | 21 | G. W. Bradford | Cortland | 8.30 | Fair. |
| 6753 | 21 | C. F. Brown | Cortland | 15.30 | Excessive strength. |

| | | | | | |
|---|---|---|---|---|---|
| 6758 | | | | | Good. |
| 6759 | 23 | J. A. Miller & Co. | Gloversville | 10.80 | Good. |
| 6760 | 23 | J. B. Stone | Gloversville | 15.60 | Excessive strength. |
| 6760 | 23 | G. Rowe | Gloversville | 4.80 | Inferior. |
| 6761 | 23 | A. M. Simmons | Gloversville | 17.90 | Excessive strength. |

## Water Analyses.

During the year fifty samples of water were analyzed. Most of the samples were sent by local boards of health, and in many cases the source was not stated definitely. The examinations were made as soon as possible after receipt of the sample and the results reported without delay. These results, not having been published elsewhere, are given in a condensed form in the appended table:

| Record number. | SOURCE OF SAMPLE. | Color. | Odor. | Chlorine. | Nitrites. | Free ammonia. | Albuminoid ammonia. | Total solids. | Loss on ignition. | Mineral matter. |
|---|---|---|---|---|---|---|---|---|---|---|
| 183 | Not stated (from Green Island) | Light greenish | None | 0.45 | None | Trace | 0.0140 | 11.80 | 4.60 | 7.20 |
| 184 | C. C. Johnson, Gowanda | Very light greenish | None | 2.50 | None | 0.0090 | 0.0115 | 60.60 | 13.20 | 47.40 |
| 185 | C. C. Johnson, Gowanda | Very light greenish | None | 0.30 | None | 0.0035 | 0.0075 | 20.80 | 3.60 | 17.20 |
| 186 | C. C. Johnson, Gowanda | Very light greenish | Very slight | 2.00 | Present. | 0.0030 | 0.0045 | 50.00 | 6.00 | 44.00 |
| 187 | Well, town of Nichols | | | 2.75 | | 0.0045 | 0.0045 | 22.60 | 9.40 | 13.20 |
| 188 | District No. 2, Hyde Park | Light greenish | None | 0.30 | None | 0.0033 | 0.0055 | 22.80 | 2.60 | 20.20 |
| 189 | H. P. Rowe, Hyde Park | Light greenish | None | 1.30 | None | 0.0033 | 0.0060 | 30.00 | 4.20 | 25.80 |
| 190 | Howatt, Hyde Park | Light greenish | Slight | 4.70 | Trace | 0.0008 | 0.0080 | 48.00 | 10.00 | 38.00 |
| 191 | J. H. Stoutenbergh, Hyde Park | Light greenish | None | 0.60 | Present. | 0.00 6 | 0.0052 | 15.00 | 3.40 | 11.60 |
| 192 | A. M. Van Wagner, Hyde Park | Light greenish | None | 1.70 | Trace | 0.0040 | 0.0090 | 27.20 | 9.20 | 18.00 |
| 193 | Prichard, Hyde Park | Light greenish | None | 7.00 | Trace | 0.0065 | 0.0055 | 94 60 | 27.40 | 67.20 |
| 194 | District No. 1, Hyde Park | Light greenish yellow | None | 1.10 | None | 0.0023 | 0.0055 | 18.20 | 4.80 | 13.40 |
| 195 | District No. 3, Hyde Park | Light greenish | Pungent | 1.30 | None | 0.0340 | 0.0082 | 23.80 | 3.20 | 20.60 |
| 196 | J. H. Brower, Hyde Park | Light greenish | None | 1.50 | Trace | Trace | 0.0040 | 28.00 | 8.20 | 19.80 |
| 197 | W. O. Halstead, Hyde Park | Light greenish | None | 0.10 | None | 0.0044 | 0.0050 | 13.20 | 2.00 | 11.20 |
| 198 | J. Houghtaling, Hyde Park | Light greenish | None | 1.00 | Present. | 0.0012 | 0.0030 | 16.00 | 6.80 | 9.20 |
| 199 | J. J. Powers, Bronx river | Light greenish | None | 0.40 | None | 0.0027 | 0.0165 | 6.80 | 3.00 | 3.80 |
| 200 | Well, town of Stockton | Light greenish | None | 1.90 | Present. | 0.0270 | 0.0250 | 43.40 | 13.00 | 30.40 |
| 201 | Well at Hyde Park | Almost colorless | Offensive | 1.70 | Trace | 0.0090 | 0.0155 | 27.40 | 4.60 | 22.80 |
| 202 | Not stated, town of Amenia | Greenish yellow | None | 0.30 | Trace | 0.0073 | 0.0073 | 17.20 | 3.80 | 13.40 |
| 203 | Not stated (from Northport) A | Light greenish yellow | None | 3.10 | None | 0.0000 | 0.0045 | 34.40 | 16.20 | 18.20 |
| 204 | Not stated (from Northport) C | Light greenish yellow | None | 4.60 | Present | Trace | 0.0125 | 45.00 | 17.60 | 27.40 |
| 205 | Not stated (from Northport) D | Light greenish yellow | None | 2.30 | None | 0.0040 | 0.0065 | 21.00 | 8.00 | 13.00 |
| 206 | Not stated (from Northport) E | Light greehish | None | 1.10 | None | 0.0033 | 0.0018 | 9.60 | 5.40 | 4.20 |
| 207 | Driven well, town of Kellawog | Light greenish | Strongly offensive | 0.90 | None | 0.0925 | 0.0145 | 31.20 | 4.60 | 26.60 |
| 208 | Well (from Round Lake) | Light greenish | None | 1.00 | None | 0.0050 | 0.0018 | 24.20 | 7.20 | 17.00 |
| 209 | Hydrant (from Clyde) | Greenish yellow | None | 1.90 | None | 0.0005 | 0.0160 | 38.60 | 8.00 | 30.60 |
| 210 | City water (from Mt. Vernon) | Brownish | None | 0.80 | None | 0.0210 | 0.0210 | 11.60 | 5.20 | 5.80 |
| 211 | Reservoir (from Glens Falls) | Greenish yellow | None | 0.15 | None | 0.0210 | 0.0100 | 5.80 | 3.00 | 2.80 |
| 212 | Well, town of Huntington | Light greenish | None | 2.75 | Trace | 0.0007 | 0.0065 | 26.80 | 8.20 | 18.60 |
| 213 | Well (from Potsdam) 1 | Greenish | Slight | 1.60 | Present. | 0.0013 | 0.0280 | 28.10 | 9.50 | 18.60 |
| 214 | Well (from Potsdam) 2 | Almost colorless | Slight | 2.10 | Present. | 0.0013 | 0.0115 | 46.90 | 8.30 | 38.60 |
| 215 | Well (from Potsdam) 3 | Milky | Slight | 6.90 | Present. | 0.0018 | 0.0245 | 68.60 | 10.30 | 58.30 |
| 216 | Reservoir (from Little Falls) | Light greenish | None | 0.20 | None | 0.0020 | 0.0075 | 24.40 | 1.20 | 23.20 |
| 217 | Not stated (from Frankfort) | Light greenish yellow | None | 0.25 | None | 0.0135 | 0.0075 | 18.00 | 6.00 | 12.00 |
| 218 | Not stated (from Mt. Vernon) | Light greenish yellow | None | 0.70 | None | 0.0365 | 0.0155 | 10.60 | 4.60 | 6.00 |
| 219 | Service pipe (from Camden) | Brownish | None | 0.30 | None | 0.0065 | 0.0050 | 9.20 | 4.00 | 5.20 |
| 220 | Well, District No. 1 (from Camden) | Nearly colorless | None | 0.60 | None | 0.0045 | 0.0050 | 14.80 | 7.40 | 7.40 |
| 221 | Well (from Potsdam) | Light greenish | None | 0.90 | None | 0.0050 | 0.0105 | 44.20 | 7.20 | 37.00 |
| 222 | Well (from Jamestown) | Nearly colorless | None | 2.00 | None | Trace | 0.0025 | 50.00 | 12.40 | 37.60 |
| 223 | Holden's, No. 1, Schroon Lake | Light greenish | None | 1.60 | None | 0.0070 | 0.0080 | 19.80 | 5.40 | 14.40 |

## Miscellaneous Water Analyses — (*Continued*).

| Record number. | SOURCE OF SAMPLE. | Color. | Odor | Chlorine. | Nitrites | Free ammonia. | Albuminoid ammonia. | Total solids. | Loss on ignition. | Mineral matter. |
|---|---|---|---|---|---|---|---|---|---|---|
| 224 | Sawler, No. 2, Schroon Lake..... | Light greenish ..... | None..... | 1.50 | None .. | 0.0045 | 0.0105 | 18.80 | 5.40 | 13.40 |
| 225 | Bostwick, No. 3, Schroon Lake..... | Light greenish ..... | None..... | 0.90 | None ... | 0.0042 | 0.0074 | 22.60 | 6.20 | 16.40 |
| 226 | Butler, No. 4, Schroon Lake..... | Light greenish ..... | None..... | 1.00 | None ... | 0.0017 | 0.0048 | 12.60 | 3.00 | 9.60 |
| 227 | Cheeney, No. 5, Schroon Lake..... | Light greenish ..... | None..... | 1.40 | Trace... | 0.0035 | 0.0125 | 35.20 | 9.00 | 26.20 |
| 228 | Town pump, No. 6, Schroon Lake.... | Light greenish ..... | None..... | 1.60 | Trace... | 0.0017 | 0.0030 | 16.60 | 4.00 | 12.60 |
| 229 | Not stated, from Waterford, No. 1.... | Light greenish ..... | Slight..... | 9.30 | None ... | 0.2120 | 0.0235 | 62.00 | 12.20 | 49.80 |
| 230 | Not stated, from Waterford, No 2.... | Light greenish ..... | Offensive..... | 0.10 | None ... | 0.0045 | 0.0160 | 12.40 | 6.20 | 6.20 |
| 231 | Not stated, from Potsdam, No. 1..... | Decided reddish brown. | None..... | 0.70 | None ... | 0.0040 | 0.0050 | 31.60 | 15.40 | 16.20 |
| 232 | Not stated, from Potsdam, No. 2..... | Light greenish ..... | Offensive..... | 4.90 | None ... | 0.0060 | 0.0120 | 55.20 | 17.20 | 38.00 |

## Conclusion.

During the past year the personnel of the laboratory has remained the same as at time of making last annual report. Mr. Edward J. Wheeler, assistant chemist, and Mr. Frank P. Huested collector and laboratory assistant, have rendered efficient and valuable service, and it is largely owing to their energy and interest that so large an amount of work has been completed. With a well equipped laboratory of our own, specially arranged for the work, and a larger corps of assistants, still more might be accomplished, and many investigations entered upon that can not at present be undertaken. It is certainly much to be desired that so soon as possible the State laboratory be established in convenient and permanent quarters, and supported by an appropriation sufficiently liberal, so that all matters of a chemical nature, pertaining to sanitary work, which may come before the Board may receive such study and thorough investigation as their importance may demand.

Respectfully submitted.

WILLIS G. TUCKER,
*Director State Board of Health Laboratory.*

Albany, N. Y., January 1, 1894.

# Reports of Division Inspectors.

# Reports of Division Inspectors.

## INSTRUCTIONS.

vision inspectors will examine into the general sanitary on of their divisions, reporting in writing to the secre- the Board once every month, and as much oftener as ay consider necessary.

ıspections will first be made of the most important places division. These will be considered as points where immi- or other travelers may enter the State, cities and larger s. After such places have been visited, other and less ant points will be inspected.

Division inspectors will confer with the local health author- ıd will inquire into the general sanitary condition of the isited. They will inspect all railroad stations and steam- ındings, reporting the sanitary arrangements of each. f any hospitals have been erected or taken for the care of ıd note the construction and arrangements of them, and he number of patients capable of being cared for. If no l has been built, a proper and convenient place should be d for a temporary hospital, if needed. They will report infecting plants or stations, if such have been provided, e where such should be built for the disinfecting of per- ıd luggage coming into the State, setting forth the aver- mber of travelers entering through that place.

f cholera is reported in Canada or New York harbor, divi- spectors will hold themselves in readiness to assist local boards in their division, and to this end they will inform officers where they can be reached by telegraph.

hey will, upon the appearance or report of a case of , or a suspicious case in their division, report by wire to retary of the Board. If such report is from hearsay, or

on knowledge received from a local board, they will so state in their dispatch, and further state at what time they will be at the place where the reported case is. On reaching the place, they will telegraph further particulars to the secretary of the Board and what measures have been taken for protection. Fuller details will be forwarded by mail.

VI. They will keep a correct record of all expenses and state the same in detail in the monthly account. Where possible, vouchers are to be attached to the account. The accounts must be made out in the manner and on the forms directed by this department, and must be sworn to.

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THERESA, N. Y., *August* 1, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.:*

Dear Sir.— Having visited and inspected the following places, I beg to report for the month of July.

July 7.

Visited Ogdensburg.

Health officer, John H. Benton.

System of sewerage emptying into the St. Lawrence river.

Water supply is from the Oswegatchie river.

Garbage drawn into the country.

General sanitary condition is good.

Houses having contagious diseases placarded and efficiently quarantined.

City owns house with capacity for twenty-five or thirty patients, if needed, located three miles out of city, to be used for contagious diseases if needed.

No recent outbreaks of contagious diseases.

Railroad and steamboat depots and landings in good sanitary condition.

Sewer on State street empties into slip but should be carried to deep water, and I have so advised. I have also advised the *taking of* city water from above the cemeteries.

MORRISTOWN, N. Y., *July*, 18, 1893.

MES E. KELSEY:

Dear Sir.— Yours of the seventh instant received, and in reply uld say I spent the greater part of two days at the railroad tion and dock, and found the following to be the average mber of travelers entering, via boat, this port:

From Canada to the United States, by way of ferry-boat, enty-five per day, made up of all nationalities.

From the United States into Canada, 125 per day; this excludes igrants from Europe via New York city. Some days there l be two and three cars filled with emigrants.

By railroad entering Morristown, 150 to 175 per day.

By railroad going out of Morristown, from fifty to seventy-five.

Sanitary condition of Morristown not as good as it should be. ny of the water-closets, cesspools and privies are in a bad ndition, and should be thoroughly cleaned and disinfectants ed.

This is due to neglect or lack of interest of the local board health. I have demanded of the board authority to visit all e places and make a report of the same, but they think I may end some one so they let the matter go unattended to. As alth officer, I can receive no compensation for services unauorized by the board.

I have two cases of typhoid fever under treatment. No. 1, a man, age 40, native of this place, and mother of five children. . 2, boy, age 12, also native of this place. Both malignant ses. I have had seven cases since June 1, 1893.

The only contagious or infectious diseases in the place. I ve complied with the law relating to putting the typhoid er cases in quarantine.

The bay is in a very unhealthy condition at this time, July ; the surface of the water is thickly covered with a ish-green slime, and the water is almost thick with disganized and decomposed animal and vegetable matter. I lieve the water contains the germs of infectious and contious diseases. I am satisfied from an experience of twenty-

three years practice in Morristown that what is known as Morristown typhoid and typho-malaria fevers have their origin from the stagnant water of the bay.

I would like to have you come here or give me authority to go through this village and see that it is put in a perfect, healthy sanitary condition and charge the same to the corporation.

Will you please send me blanks so I can put my report in an official manner. Hope to hear from you at once.

Your servant.

JAMES A. PHILLIPS, M. D.

July 7.

Visited and inspected Morristown. Health officer, James A. Phillips, who is very efficient, but does not have sufficient backing from local board.

No system of sewerage; good natural drainage. Water supply from wells.

Garbage burned or buried by individuals. General sanitary condition good, except in the immediate vicinity of bay, which backs in from the St. Lawrence river, which can not be drained and should be filled.

Houses having contagious diseases placarded and quarantined.

No arrangements for isolation of patients having contagious diseases.

Railroad and steamboat depots and landings in good sanitary condition.

Have a few cases of typhus and typhoid fever in the immediate vicinity of bay above referred to; see letter attached.

July 10.

Visited and inspected Norwood. Health officer, Dr. Austin.

No system of sewage.

Water supply, wells.

Garbage burned and buried by individuals.

General sanitary condition excellent.

Houses having contagious diseases placarded and efficient quarantined.

located grounds with idea of using tents in case of
No hospitals.
cent outbreak of contagious diseases.
›ad depot in good sanitary condition.
efficient and good working board of health.

July 11.

·d and inspected Rouses Point. Health officer, Dr. Let-
; population, 2,000.
·stem of sewage; open drains on both sides of street;
nd stagnant water standing in streets; should have
›n two streets emptying into Lake Champlain.
l of health anxious to put in system of sewerage, but
by taxpayers.
vaults cleaned, disinfected and buried.
l-houses cleaned; privies cleaned and fumigated and put
sanitary condition.
· supply from wells.
ıge drawn into the country.
·al sanitary condition very good.
located grounds with intentions of using tents in case
ra or other contagious diseases.
cent outbreak of contagious or infectious diseases.
›ad and steamboat depots and landings in good sanitary
n.
·s at stations cleaned and chloride of lime used each

ed sewerage in two streets of capacity to carry all
›us matter into Lake Champlain.

July 11.

·d and inspected Plattsburgh. Population, 9,000; health
Dr. O. Holcomb.
system of sewerage; not trapped; emptying into Lake
ıin.
· supply, springs three miles out; splendid.
ıge buried or drawn into the country.

General sanitary condition splendid.

Houses having contagious or infectious diseases placarded very efficiently quarantined.

City own pest-house or hospital three miles out, with capa for fifty patients, for isolation of patients with contag diseases.

No outbreak of contagious diseases, and, 1893, railroad steamboat depots and landings in good sanitary condition.

Advised the trapping of sewers.

By trapping sewers, with the present efficient board of he the sanitary condition of Plattsburgh will be all that is desir

The village has appropriated $2,000 to be used by the boa health for sanitary purposes, if necessary.

July 12.

Visited and inspected Fort Covington. Health officer, D N. McArtney; population about 900.

No system of sewerage; natural drainage.

Water supply from wells.

Garbage buried or burned.

General sanitary condition good.

Houses having contagious diseases placarded.

Have located grounds and will use tents in case of ch or other contagious diseases.

No recent outbreak of contagious diseases.

Railroad depot in good sanitary condition.

Board of health efficient.

July 12.

Visited and inspected Hogansburgh. Health officer, I McConnell; population, 400.

No system of sewerage.

Natural drainage.

Water supply, wells.

Garbage not disposed of.

General sanitary condition good.

Houses having contagious diseases placarded.

No arrangements for isolation of patients and contagious disease hospitals.

No recent outbreaks of contagious dieases.

Steamboat landing in good sanitary condition.

Advised them to locate ground for isolation of patients, and use tents in case of cholera and to immediately report any suspected case of cholera.

July 12.

Visited and inspected Massena. Population, 1,100; health officer, Dr. M. J. Stearns.

No system of sewerage.

Underground drainage very efficient.

Water supply from wells.

Garbage burned or buried.

Houses containing contagious diseases are placarded and put in quarantine.

No hospitals; have located grounds with intention of using tents in case of cholera or other contagious diseases.

General sanitary condition good.

No recent outbreak of contagious disease.

Railroad and steamboat depots and landings in good sanitary condition.

Advised sewerage from Main street across lowlands, thus carrying off stagnant water from the east side of street.

The average number immigrants entering the port is two or three daily.

July 17.

Visited and inspected Rome. Population, 13,500; health officer, Dr. H. C. Sutton.

System of sewerage good; cesspool; is disposed of by digging to gravel fifteen or twenty feet, as may be, and covered with earth.

Water supply is principally from Mohawk river; is good and wholesome.

Garbage drawn into the country and disposed of.

General sanitary condition is splendid.

Houses having contagious diseases placarded and efficiently quarantined.

Have pesthouse, with capacity for twenty-five patients; is well ventilated, but will use tents in case necessary for cholera patients.

One case of varioloid some months ago cared for at pesthouse.

Railroad depot in good sanitary condition.

Local authorities desire the State to take proper steps to take care of stagnant water in unused State canal, which, in my opinion, should be done by the proper authorities.

July 18.

Visited and inspected feeder of Erie canal, by your request, at Oneida, and reported to you — Oneida not in my district — had been visited and inspected by fifth divisional sanitary inspector, Harry Pierce, M. D., Albany, N. Y. General sanitary condition of Oneida should be in his report for July.

July 24.

Visited and inspected La Fargeville (Orleans). Population, 628; health officer, Dr. Potter.

No system of sewerage.

Water from wells.

Garbage, no regularity as to disposing of it.

General sanitary condition good.

Houses having contagious diseases placarded.

No arrangements for isolation of patients with contagious diseases.

No recent outbreaks of contagious disease.

Railroad depot in good sanitary condition.

The One Thousand Island Park in the town of Orleans has not yet been inspected.

July 25.

Visited and inspected Alexandria Bay. Population, 1,200; health officer, Dr. Campbell.

Partial sewerage system.

Water supply from St. Lawrence river and wells.

General sanitary condition good.
Houses having contagious diseases placarded and quarantined.
No arrangement for isolation of patients with contagious diseases either by general government or local health board.
No recent outbreak of contagious disease.
Steamboat landings in good sanitary condition.
System of sewerage deficient.
I have advised a more thorough system.

July 25.

Visited and inspected Redwood (Alexandria). Population, 00; health officer, Dr. E. E. Eddy.
No sewerage.
Natural drainage into Butterfield lake.
Water supply from wells.
Garbage not disposed of.
General sanitary condition good.
Will quarantine houses having contagious diseases.
No arrangements for the isolation of patients with contagious diseases.
No recent outbreaks of contagious diseases.
Railroad depot in good sanitary condition.
Advised locating ground in case of need for cholera patients.

July 26.

Visited and inspected Philadelphia. Population, 800; health officer, Dr. Graham.
No sewerage.
Water supply from wells.
No disposition of garbage.
General sanitary condition good.
Houses having contagious diseases placarded and efficiently quarantined.
No arrangements for isolation of patients or contagious disease hospitals.
No recent outbreaks of contagious diseases.

Railroad depot in good sanitary condition.

Both health officer and president of village in Manitoba and did not see them.

July 27.

Visited and inspected Boonville. Population, 2,000; health officer, Dr. Douglass.

No system of sewerage.

Sewage disposed of by burying.

Water supply from wells.

No disposition of garbage.

General sanitary condition good.

Houses having contagious diseases placarded and quarantined.

Have located land and will use tents in case of cholera.

No outbreak of contagious diseases.

Railroad depot in good sanitary condition.

Have an efficient and good working health board.

July 28.

Visited and inspected Lowville. Population, 3,500; no health officer.

No sewerage.

Good natural drainage.

Water supply from wells.

General sanitary condition good.

No arrangements for isolation of patients or hospitals for contagious diseases.

No recent outbreak of contagious diseases.

Clerk of the health board requested me to hold back my report and they would appoint a health officer and reorganize and go at work, they not having had a meeting of the board for months.

Railroad station in good sanitary condition.

July 28.

Visited and inspected Carthage. Population, ———; health officer, Dr. Owens.

No system of sewerage, but good natural drainage.

Water supply from Black river.

›age drawn out into the country.
›ral sanitary condition good.
›es having contagious diseases placarded and efficiently tined.
locate grounds and use tents for the isolation of patients ›ssary.
›ecent outbreak of contagious disease.
›oad depot in good sanitary condition.

JAMES E. KELSEY,
*Chief Inspector of First Division.*

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PULASKI, N. Y., *July* 31, 1893.

WIS BALCH, *Secretary State Board of Health, Albany, N. Y.:*

Sir.—I herewith respectfully submit my report of work s chief inspector of second division for the month of July:

July 6.

›ected my own village of Pulaski; population, 1,800. Dr. Betts health officer. (He is also health officer for the ›f Richland, in which Pulaski is situated.) Village fairly rained by public and private sewers, which discharge into a river. No garbage system, but most of the garbage is ›d into Salmon river, a rapid stream running through the and emptying into Lake Ontario after about four miles of descent. Sanitary condition is excellent. Placards used uarantine enforced. No hospitals or arrangements for f contagious diseases. No recent outbreak of contagious ›. Railroad depot, by my advice, now in sanitary ion.

July 7.

›ected Henderson village; population about 800; Hender- [arbor, a lake port, and town of Henderson, Jefferson ›. Dr. Terry health officer of all these places; post-office, ›rson, N. Y. No public sewers in either place. Some e sewers for hotel drainage into Henderson harbor. supply from wells and cisterns. Nothing done with

garbage. General sanitary condition fair. Placards used in contagious diseases. Health officer reports quarantine to be well received. No arrangements for care of contagious disease. Steamboat landing and docks clean. No railroad depots. I suggested more care with privies and surface drains, and that disinfectants be used. I saw the collector of customs and told him to keep a sharp lookout for contagious diseases and report any such to local health officer at once.

July 8.

Inspected Belleville; population about 900; also Ellisvillage; population 600; both in the town of Ellisburg. Dr. E. A. Chapman health officer; post-office, Belleville. He is also health officer for the foregoing villages and the village of Mannsville and the town of Ellisburg. He is a very efficient officer and is well sustained by the local boards.

No system of sewerage except some private sewers draining into the creeks running through the villages. No system of garbage disposal. Water supply from wells and cisterns. General sanitary condition as good as possible with surface drains closets and privies. Placards used and quarantine well enforced. No hospital for contagious disease. Railroad stations in fair condition. This report applies to the three villages in Ellisburg.

July 9.

Inspected village of Sandy Creek; population 1,000. Dr. Cook health officer of both village and town of Sandy Creek; post-office, Sandy Creek. No system of sewerage. A few private sewers. Mostly surface drainage into Sandy creek, a small rapid stream running through the village. Water supply pure, from a spring brook; good system of water-works. No garbage system. Most of garbage is dumped into creek. The sanitary condition is as good as could be expected where surface drainage and privies prevail. The local officer has ordered all privies cleaned and disinfected. Placards are used and quarantine enforced. No arrangements for care of contagious diseases. No recent outbreak of contagious disease.

July 9.

Inspected village of Lacona; population about 700; situated about one mile east of Sandy Creek, on same stream, in town of Sandy Creek. Health officer, Dr. Lounsbury; post-office, Lacona. The report of Sandy Creek village applies in all essential particulars to Lacona. Railroad privy in very filthy condition. Had been ordered cleaned and disinfected by the local health officer.

July 11.

Inspected the city of Watertown; population, about 18,000. Dr. F. B. Smith health officer. System of sewerage and drainage good, on main streets. The city now putting in general sewage system of first rank. Sewage discharged into Black river below the city. Water supply from Black river, above the city. Water is fairly good. No systematic disposal of garbage. General sanitary condition good. Placards used and contagious diseases quarantined when reported. I heard some complaint that physicians did not report cases of diphtheria and scarlet fever. Directed health officer to report any such neglect to State Board of Health at once.

City hospital, but no special arrangement for care of contagious diseases. Union railroad depot in good sanitary condition. No recent contagious diseases.

July 14.

Inspected the village of Parish in the town of Parish. Dr. Foote health officer for village and town; post-office, Parish. No system of sewerage or drainage. No garbage system. Water supply, wells and cisterns. General sanitary condition good for a town having surface closets and cesspools.

Placards used and quarantine enforced. No arrangement for care of contagious disease. In spring had outbreak of mild form of scarlet fever; cases quarantined. Railroad station filthy. Instructed health officer to see that it was placed in sanitary condition.

July 14.

Inspected Cleveland, a village in the town of Constantia; population, 800. Dr. Contreman, health officer; post-office, Cleveland, N. Y. No public sewers. Surface drains and private sewers empty into Oneida lake. No garbage system. Water supply from wells and cisterns. The local board is active and the general sanitary condition is good. Placards used and quarantine enforced. No arrangements for contagious diseases. No recent contagious diseases. Railroad station in fair condition.

July 14.

Inspected village of Constantia in the town of Constantia, six miles from the village of Cleveland; population, about 500. Dr. Lindsay health officer; post-office, Constantia. The general sanitary condition much the same as Cleveland.

July 14.

Called on health board in town of West Monroe. Gave them instructions regarding necessity of keeping schools, railroad depots and cheese factories in sanitary condition. The president of the board said he would inform Dr. Lindsay, who is health officer of the town, there being no doctor in West Monroe, and he would see that my suggestions were carried out.

July 15.

Inspected the village of Central Square in the town of Hastings; population, about 700. Dr. N. W. Bates, health officer. Also the village of Brewerton; population, about 800. Dr. Strong, health officer; post-office, Brewerton. Also the village of Mexico; population, 1,700. Dr. S. Bennett, health officer; post-office, Mexico, N. Y. All of these villages were in generally good sanitary condition much the same as the other small villages reported. I found many of the health officers needed to be impressed with the fact that the State Board was visiting them and that it would expect a more thorough inspection of privies, school-houses, public buildings, cheese factories, etc., and, I think, my visits will do much good in stimulating them *to do their* duty.

July 17.

Inspected the village of Sand Bank in the town of Albion; population, 700. Health officer, Dr. M. L. Lawler. No sewerage. No garbage system. Water supply, wells and cisterns. General sanitary condition not very good, owing to the local health board not enforcing the recommendations of the health officer. Placards used. Quarantine observed. Railroad depot filthy. Saw local board and urged them to do their duty. I think my visit will be beneficial.

July 18.

Inspected the village of Phoenix located on Oswego river in the town of Schroepel; population, about 1,800. Health officer, Dr. E. J. Drury; post-office, Phoenix, N. Y. Main streets have sewers which discharge into Oswego river in shallow water and at times the odor is very offensive. Advised extending the sewer pipes into deep water. Water supply from the Oswego river above village. Water is not good for drinking or cooking. Cisterns and wells used for this. No system of disposing of garbage. The health board is active and are doing all they can. Placards used and quarantine enforced. No hospital or provision for contagious diseases. No recent outbreak of contagious disease. Railroad depot and steamboat landing in good condition.

July 18.

Inspected the village of Fulton in town of Volney. Situated on Oswego river; population, about 6,000. Health officer, Dr. C. M. Lee; post-office, Fulton, N. Y. No system of sewers Some private sewers discharge into Oswego river and Oswego canal. Excellent water supply from springs through waterworks. No general system for removing garbage. Some parts of town are very unsanitary from want of proper drainage. Placards used. Quarantine enforced. No arrangements for care of contagious diseases. No recent outbreak of contagious diseases. Railroad station very filthy. I urged the local authorities to insist that owners of property should drain and ventilate cellars, clean and disinfect privies, etc. Threatened to report to the State Board if nothing was done.

July 18.

Inspected village of Oswego Falls, on opposite side of Oswego river from Fulton; population, 1,800. Health officer, Dr. W. M. Wells; post-office, Oswego Falls, N. Y. No system of sewerage. Good water supply from Fulton water-works. No systematic disposal of garbage. Placards used and quarantine enforced. No arrangement for contagious diseases. No recent outbreak of contagious disease. Railroad depot filthy. The health board of the village has not been legally organized this year.

July 18.

Inspected the city of Oswego; population, 25,000. Health officer, Dr. P. M. Dowd; post-office, Oswego. The city is systematically sewered and drained. Sewerage discharged into Lake Ontario. Water supply good, from Oswego river. Garbage dumped into Lake Ontario. General sanitary condition good. Placards used. Quarantine strictly enforced. Hospital tents, with suitable fixtures, are ready for reception of contagious diseases. No recent outbreak of contagious disease. Railroad depot and docks in sanitary condition. No arrangements have been made at this port or any other by United States government for inspection of vessels from Montreal, Quebec and other Canadian ports.

July 25.

Inspected the village of Clayton; population, 1,200. Health officer, Dr. F. M. Vebbard; post-office, Clayton. Sewerage and drainage good. Manner of sewerage discharge very bad. Sewers discharge into shallow water in the bay above the town. Water supply from wells and cisterns. No garbage system. General sanitary condition good, excepting discharge of sewer. Placards used and quarantine enforced. No arrangements for isolation of contagious diseases. No recent outbreaks of contagious disease. Railroad station and docks in sanitary condition. Advised sewer discharge to be continued into deep river water.

July 26.

Inspected village of Cape Vincent; population, 1,200. Health officer, Dr. Thos. Masson; post-office, Cape Vincent. System of sewerage good, with the exception of the discharge into shallow

r above the town. Water supply from wells and cisterns. ystem of garbage disposal. General sanitary condition good, the exception of sewer discharge. Placards used. Quaran- enforced. No arrangements for isolation of contagious dis- . Railroad station and docks in sanitary condition. No nt outbreak of contagious disease. Advised local board to nd sewer into deep water of St. Lawrence river. Saw col- or of customs and found no arrangements for reception or ection of vessels from Canada coming to any port in his dis- . Think this matter should receive attention.

July 28.

ispected village of Chaumont; population, 700. Health er, Dr. Getman; post-office address, Chaumont. No system ewerage. Water supply from wells drilled through lime and cisterns. No system for garbage disposal. General tary condition as good as could be expected. Placards used; agious diseases quarantined. No recent outbreak of con- ous disease. Railroad depot in sanitary condition.

July 28.

ispected the villages of Limerick and Brownville; popula- of each, about 700. Dr. Gates, health officer of bath villages town of Brownville; post-office, Brownville. Sanitary con- n of these villages much the same as at Chaumont.

July 28.

ispected the village of Dexter. Water supply and sanitary lition much like Chaumont and Brownville. Health officer, Foote; post-office, Dexter. I advised a thorough inspection rivies and surface drains, and that they be cleaned and nfected.

July 29.

ispected Sackett's Harbor; population, 1,200. Health officer, Boyd. No system of sewerage. Water supply from wells cisterns. General sanitary condition not good. Placards d; quarantine enforced. No arrangement for isolation of tagious *diseases. No recent* outbreak of contagious disease

Railroad depot and docks sanitary. The local board seems to be negligent. Advised thorough cleansing and disinfection of privies, drains, etc.

Very respectfully, your obedient servant.

FRANK S. LOW,
*Chief Inspector Second Division.*

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## REPORT OF JOHN A. STAPLETON, M. D., CHIEF SANITARY INSPECTOR, THIRD DIVISION.

LEWIS BALCH, M. D., *Secretary Board of Health, Albany, N. Y.:*

Dear Sir.—I have the honor to submit the following report having visited the following places and conferred with each local health board:

### NIAGARA FALLS CITY, NIAGARA COUNTY.

**Health Officer, Michael Talbot, M. D.**

System of sewerage considered good; empties into Niagara river below the city.

Water supply from springs by pipe and hydrants, considered sufficient and good.

Garbage disposed of to farmers who carry it into the country.

General sanitary condition of city good.

Placards used for contagious diseases, and the isolation of patients and the quarantining of infected houses considered efficient.

Plans for contagious hospital and material all ready to construct in case of necessity. At present city contains no pest-house.

Plan.—Building to contain three rooms, two wards and a kitchen, each ward to be twelve by fourteen, and to be located about one-half mile outside of city, which will be about one mile from railroad station.

Nothing has been done by the health board in regard to isolation and fumigation of patients and baggage in case of outbreak of cholera.

No recent outbreaks of contagious diseases.

Railroad station and surroundings at Niagara Falls in good condition.

The water-closets seem to me entirely inadequate at Suspension Bridge. When you consider the number of passengers who stop there or change cars, it seems almost impossible that they can be accommodated. The ventilation is decidedly poor, consisting of two or three small windows two and one-half by one foot. Number of closets three; number of urinals three or four. The number of emigrants changing cars there at the present time about 500 to 800 per week, and this is the lowest number in years. The cellar at this station is musty and damp and needs considerable cleaning and disinfecting.

Niagara Falls city includes Suspension Bridge and Niagara Falls.

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## LEWISTON, NIAGARA COUNTY.

### Health Officer, Wm. Huggins, M. D.

System of sewerage, none.

Water supply from wells and springs.

Garbage disposed of to farmers.

General sanitary condition good.

Placards used to some extent, and the quarantine considered efficient by health officer.

No arrangements for isolation, nor any contagious disease hospital.

No recent outbreaks of contagious diseases.

Railroad landing and depots in good condition.

Steamboat landing in good condition.

This is a point on the Niagara river where, during the summer months, excursions are daily made from Canada. It is the principal landing between Youngstown and Niagara Falls. The average number of excursionists and passengers from Canada for three or four months during the summer would be 800 to 1,200 per week.

I advised health officer as to the necessity of placarding houses in contagious diseases, and of the necessity of plans for

a contagious hospital, also a place for fumigation and disinfecting baggage in case cholera should make its appearance in Canada. I consider this point one of the danger points on the border.

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## CAMBRIA TOWN, NIAGARA COUNTY.

### Health Officer, Wm. Huggins, M. D.

This town is composed of Pekin, Northridge, Sanborn and Cambria. At the north side of the boundary of the town is an Indian reservation, and it seems impossible for the health officer to compel anything like cleanliness among the inhabitants, or to enforce isolation in case of contagious or infectious diseases. The health officer, Dr. Huggins, would like some advice in this matter.

The sanitary condition of the town is good.

All the places are small and not thickly populated.

No system of sewerage.

Water supply from wells.

Placards used to a small extent.

No arrangements for isolation, nor any infectious disease hospital.

No recent outbreaks among the whites, but among the Indians diphtheria and small-pox have occurred, and from report of health officer syphilis seems to be wide-spread.

The railroad stations at these points are in good condition.

Very little passenger traffic.

The railroad station at Sanborn in good condition, but have advised health officer to compel more cleanliness and also to disinfect closet at station.

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## RANSOMVILLE, NIAGARA COUNTY.

### Health Officer, Wm. Huggins, M. D.

System of sewerage good.

Water supply from wells and springs.

No general disposition of garbage.

eneral sanitary condition of the town considered good; very
e sickness.
lacards are not used to any extent.
illage is very small.
o arrangement for isolation of patients with contagious
ases.
o contagious disease hospital.
o recent outbreaks of contagious diseases.
ailroad station in good condition.
lave advised as to the necessity of placards in case of con-
ious or infectious diseases, and also as to preparations for
reception of cholera, should it become necessary.

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## YOUNGSTOWN, NIAGARA COUNTY.

### Health Officer, Wm. J. Falkner, M. D.

o system of sewerage.
as many private drains and sewers leading to the Niagara
r.
ater supply from wells.
arbage disposed of to farmers.
eneral sanitary condition considered good, which seems to
due more to its location on a point between Lake Ontario
Niagara river, and for this same location it would seem to
a danger point in case of outbreak of cholera in Canada.
only way Youngstown can be reached is by boat from
ada.
lacards are not used for contagious diseases.
o recent outbreak of contagious diseases of late.
o arrangements for the isolation of patients nor any con-
ous disease hospital.
here are not many passengers, such as excursionists, to
ngstown.
eamboat landing is small, but in good condition.
t a port of entry.
ere seems to be a lack of vitality in this health board.
bers do not seem to agree or to understand that they are

members of this board to be of service to the town. The he officer informs me that he has been unable to have a meet with anything like a full attendance in months.

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## LOCKPORT, NIAGARA COUNTY.

### R. Hill, M. D., Health Officer.

System of sewerage good; empties into a creek one-half m below city and there empties into creek leading to Lake Onta

Water supply good; is obtained from springs outside of by pipe and hydrant.

Garbage disposed of in the country.

General sanitary condition good.

Placards used for contagious diseases and considered effici

No contagious disease hospital.

No particular preparations or plans have been made or for lated for the reception of cholera should it become necessary

No recent outbreaks of contagious diseases.

Railroad station in good condition.

Advised health board as to the preparations that shoul made for the reception of cholera should it be necessary.

There is very little emigrant traffic over this branch of New York Central railroad. At this point a branch of the road goes from Lockport and Tonawanda to Buffalo.

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## LA SALLE, NIAGARA COUNTY.

### W. Hixson, M. D., Health Officer.

This town contains about 250 inhabitants.

No system of sewerage.

Private drains and sewers are used and empty into Ni river.

Water supply from wells.

No general disposition of garbage.

General sanitary condition I would not consider very although it is a small place, on account of typhoid fever ex

almost throughout the year, and the number of cases seem to be out of all proportion to the number of the inhabitants.

Placards used on houses having contagious diseases and considered sufficient isolation.

No arrangements have been made for the isolation of patients or for the fumigation and disinfection of baggage and mail. It is claimed by the health officer that the refuse and the emptying of the sewers into Niagara river above La Salle is one of the principal sources of this continued existence of typhoid fever, but I am of the opinion that it is due to an extent from the water supply of the wells in the town. Those wells, in some cases, are very near privy vaults and would seem to me to have much to do with the prevalence of the fever.

Railroad stations and closets attached are in good general sanitary condition.

I advised health board as to the necessity of a building suitable for the reception of cholera patients should it be necessary. A building has been secured within the distance of one-eighth of a mile from the railroad station. I also advised him as to the necessity of the disinfection of all luggage and mails.

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## NORTH TONAWANDA, NIAGARA COUNTY.

### Health Officer, A. W. Jayne, M. D.

System of sewerage considered good; empties into Niagara river.

Water supply from springs through pipe and hydrants.

Very few wells used.

Garbage disposed of by carrying it into the country a distance of three miles.

General sanitary condition fair.

Placards are used for houses having contagious diseases and considered efficient quarantine.

No contagious disease hospital. The health officer has engaged a house that can be used as a contagious hospital, in case of an epidemic of cholera, about one-eighth of a mile from

the New York Central railroad station. Plans: Building contains four rooms and a kitchen. Each room about twelve by fourteen.

Nothing has been done for the isolation or disinfection of patients or baggage.

No recent outbreaks of contagious diseases.

Cases of diphtheria, scarlet fever, etc., have been isolated and each house quarantined as far as practicable.

North Tonawanda is a large lumbering port and has a large floating population, consisting of a class of people who are very apt to be dirty and carry infection with them. I consider it one of the danger points for an epidemic.

The sanitary condition must needs be only fair, especially during the summer season, and I advised the health officer to be persistent and careful and make a special effort to keep the inhabited portion of the town in as good general sanitary condition as possible.

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## WILSON, NIAGARA COUNTY.

### Health Officer, W. L. Draper, M. D.

No system of sewerage, only a few small private drains, which empty into a creek which leads to Lake Ontario.

Water supply from wells.

Garbage used in farms near village.

General sanitary condition good.

Placards not used for contagious diseases, and contagious diseases are very few.

Plans have been formulated for a contagious hospital in case it should be necessary to receive cholera patients. Building is to be a mile from railroad station. Would be able to accommodate fifteen or twenty patients.

Nothing has been done in regard to disinfection or fumigation of passengers or luggage.

No recent outbreaks of contagious diseases.

Railroad station in good sanitary condition.

Steamboat landing at the harbor in good condition.

Wilson has a good harbor, and during the summer months two or three thousand excursionists is about the weekly average for two or three months. These excursionists come entirely from Canada. This is no port of entry.

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## TONAWANDA, ERIE COUNTY.

### Health Officer, H. M. Edmunds, M. D.

The system of sewerage is considered good; empties into the outlet connected with the creek and Niagara river. I think this system of sewerage is not very extensive.

Water supply comes by pipe from springs one and one-half to two miles to village; considered sufficient and good.

Garbage disposed of to the surrounding farming country.

General sanitary condition good.

Local board, with the exception of the health officer and secretary, seem to lack the qualifications that are necessary for performing good work. There seems to be difference of opinion on all sanitary points which are a benefit to the village.

Placards are used to some extent for contagious diseases, but are not sufficient.

The village contains no infectious disease hospital.

No particular arrangements have been made nor plans formulated for the reception of cholera should it be necessary.

No recent outbreak of contagious diseases of late years; formerly there have been outbreaks of small-pox.

Railroad station and boat landing and docks in good condition and the docks fairly well cared for.

Advised board as to the necessity of a contagious hospital, also that the plans be formulated for the building of a cholera hospital, should it become necessary.

No arrangements have been made for the disinfection or fumigation of passengers or baggage.

## BATAVIA, GENESEE COUNTY.

### Health Officer, J. W. Le Seur, M. D.

System of sewerage considered good, but inadequate. There are plans now made to enlarge sewerage system in certain parts of the village. Manner of the disposal is by emptying into Tonawanda creek, which empties into Niagara river near Tonawanda.

Water supply from large springs by pipe and hydrants. Distance from village, three to five miles.

Garbage disposed of to the surrounding farmers.

General sanitary condition good.

Placards used on houses having contagious diseases, and quarantining considered efficient.

Village contains no contagious disease hospital. Board has procured a building sufficient to accommodate fifty patients, in case of an outbreak of cholera. Distance from railroad station, about three to four miles.

No arrangements have been made for the isolation or fumigation of passengers and luggage.

No recent outbreaks of contagious diseases save in the blind institution, where, for some years past, diphtheria has existed. The health officer informs me that the plumbing has all been remodeled and for the past year but one or two cases of diphtheria existed.

Railroad station in good condition.

I advised health officer and board as to the necessity of building a contagious hospital, also to formulate plans whereby they may be able to disinfect and fumigate passengers and baggage, if necessary.

Tonawanda creek, running through a large part of Batavia, at this season of the year becomes somewhat offensive. It needs cleaning, and I advised the health officer to insist on the city looking after it.

## BERGEN, GENESEE COUNTY.

### Health Officer, Edmund Townsend, M. D.

No system of sewerage.

Water supply from wells.

No general disposition of garbage.

Sanitary condition seems to be good.

Placards not used to any extent; it at least seems to be insufficient as to quarantining, in case of contagious diseases.

No arrangements have been made for isolation of patients nd the town contains no contagious disease hospital.

No recent outbreaks of contagious diseases.

Railroad station and surroundings in good condition.

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## BYRON, GENESEE COUNTY.

### Health Officer, S. Prince, M. D.

No system of sewerage.

Water supply from wells.

No general disposition of garbage.

General sanitary condition considered good.

No placards used for houses having contagious diseases.

No arrangements for isolation of patients, and no contagious disease hospital.

Of recent outbreaks of contagious diseases, I could learn nothing.

Railroad station and surroundings in good sanitary condition.

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## BROCKPORT, MONROE COUNTY.

### Health Officer, B. S. Coleman, M. D.

System of sewerage is merely an apology. For a distance of out an eighth of a mile an open ditch is used as a sewer, and is e receptacle of a covered sewer for the village. This open ditch polluted by the filth from closets and sink drains. The water

in places becomes stagnant, and I think it can be declared a nuisance. This open ditch runs under the canal, and here sufficient water runs from the canal to destroy any odors that might be contained in this sewerage which comes from the village.

Garbage disposed of to farming country surrounding.

General sanitary condition considered fair.

Placards are used for contagious diseases, and quarantining is considered efficient.

No arrangements have been made, no plans formulated for the reception of cholera patients, should it be necessary.

Town contains no contagious disease hospital.

No recent outbreaks of contagious diseases.

Railroad station and surroundings in good sanitary condition.

Conferred with the local board as to the necessity for the perfecting of plans for the building of a hospital, should it become necessary, in the event of an epidemic of cholera. Also advised them as to the disinfection and fumigation of passengers and baggage.

At the present time an epidemic of typhoid fever exists in the northern part of the village of Brockport, on the border of the town of Clarkson. Am going there again Monday.

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## SPENCERPORT, MONROE COUNTY.

### Health Officer, P. G. Udell, M. D.

No system of sewerage.

Water supply from wells.

No general disposition of garbage.

Health officer considers sanitary condition good.

No placards used for houses having contagious diseases.

No arrangements for isolation of patients with contagious diseases.

No contagious disease hospital.

No recent outbreak of contagious diseases.

Railroad station in good sanitary condition.

Advised health officer to bring up matter of plans and to prepare a hospital, should it be necessary, for the reception of cholera cases, also to perfect plans for the disinfection and fumigation of passengers and baggage.

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## AVON, LIVINGSTON COUNTY.

### Health Officer, Wm. Nisbet, M. D.

System of sewerage consists of a square box fourteen inches nd runs about three-eighths of a mile and empties into the ver.

Water supply from springs two miles distant from the village, d also by pipe line from Conesus Lake. Sufficient water and od.

No general disposition of garbage.

General sanitary conditions good, except for the open drain hich runs from the center of the village three-quarters of a mile the river.

Placards are not used for contagious diseases; never have een.

No arrangements for isolation of patients, and no contagious isease hospital.

Recent outbreaks of contagious diseases: Scarlet fever has isted there throughout the year and typhoid fever is more or ss present throughout the year.

Railroad station and depot in good sanitary condition.

In regard to this open ditch, I find several closets built over is ditch, and almost the entire sink contents from the houses ong the line of the ditch empty into this sewer. At only one int for about 300 feet is this covered. At certain times of the ar almost no water runs along this course, which is the natural urse for the fall of the water, and leaves a dreadful odor and think should be considered a cause of sickness, and also would nsider it, under the circumstances, a nuisance. The health ard has been divided as to the necessity for a system of sewer- e. The majority favor a system of sewerage and this would

do away entirely with this drain nuisance. The health officer has built private sewers from his hotel which empty into this main wooden box and considers that the expense of a sewer would be too great for the town at present, but the majority of the board, and many taxpayers, disagree with him. The uses and abuses concerning this drain I consider should be abated since it is a nuisance to the inhabitants living along the line.

The health officer, from what I can learn, has not been present at one meeting of the board since his appointment. He says he has not been notified, but, on the other hand, the secretary says he has notified him.

I have advised the health officer as to the necessity of formulating plans for a contagious hospital should it become necessary, also to some method of fumigation and disinfection of baggage and passengers.

Avon is a point where probably hundreds of passengers change cars during the day and might be considered a danger point in case of epidemic of cholera.

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## MEDINA, ORLEANS COUNTY.

### J. L. Lund, M. D., Health Officer.

System of sewerage considered good at present. Are enlarging sewer and extending it.

Manner of disposition is by emptying into Oak Orchard creek.

Water supply from springs.

Garbage disposed of to surrounding farming country.

General sanitary condition good.

Placards are used to a small extent on houses having contagious diseases, and quarantine is not entirely efficient.

No arrangements for the isolation of patients, and no contagious disease hospital.

Could not learn of any recent outbreak of any contagious diseases.

Railroad station and surroundings, good general sanitary condition.

Advice given as to the preparations for the reception of cholera should it become necessary. Also as to fumigation and disinfection.

Medina is a small place with very little passenger traffic.

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## ALBION, ORLEANS COUNTY.

### Health Officer, H. Sutton, M. D.

Albion has system of sewerage.

Manner of disposal is by carrying it a mile and a half from the village and emptying to low tract of ground in which it is absorbed.

Water supply from springs by pipe and hydrants.

No general disposition of garbage.

General sanitary condition considered good.

Placards are used to some extent, and quarantine is considered efficient.

No arrangements as to the isolation of patients, and no contagious disease hospital has been built.

No recent outbreaks of contagious diseases, as far as I could learn.

Railroad station in good sanitary condition, with the exception of the closets, which I advised health officer to insist on more cleanliness.

Advised health officer as to preparations for the building of a hospital, or procuring of a building which would be suitable to care for cholera patients in case of necessity, also a place to fumigate baggage, luggage, etc., and for the disinfection of passengers.

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HORSEHEADS, N. Y., *August* 1, 1893.

DR. LEWIS BALCH, *Secretary of State Board of Health, Albany, N. Y.:*

SIR.—I have the honor to report that I have visited and spent some time in the following named places of the fourth sanitary division: Elmira, Binghamton, Owego, Waverly, Corning and Tamanca.

Under your instructions I have had in view the places where passengers are brought into the State from other States, with an idea of establishing hospitals for isolation, detention and treatment.

I suggest that if this becomes necessary that arrangements be made for such stations at Elmira and Waverly, at least, these being the places where the most passengers, coming from other seaports than New York, enter the State. The Northern Central at Elmira and the Lehigh Valley at Waverly bringing, from southern cities, large numbers (I have been unable even to approximate the number) of passengers and emigrants who have not run the gauntlet of sanitary inspection in this State.

My opinion is that there are but few cases of infectious or malarial diseases in the district. I have corresponded in regard to a case of diphtheria in the town of Spencer, Tompkins county, and three deaths have occurred from this disease in Cayuta, Schuyler county, which place I have visited and advised more thorough isolation and disinfection. Scarlet fever is prevailing to some extent in many of the places visited, but, as a general thing, the cases are not severe.

Boards of health of towns visited are not generally called together except to organize, and no inspections are made except on complaints. These are sometimes spite action, and health officers do not like to take sides in neighborhood quarrels. Members of boards of health do not generally understand their powers and duties. I think if a report once a year of inspections made for sanitary conditions were called for by the State Board of Health, and published, it would have a good effect in stirring up these officers.

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## ELMIRA.

Dr. Edmund O'Reilly is health officer. He has under him two general inspectors, who are on duty all the time, and are efficient officers. They supervise the quarantining of cases of infectious diseases and the disinfection of houses where they have occurred; serve notices to clean up rubbish, etc. There is

a milk and meat inspector and a plumbing inspector, under general law. The inspectors report to the health officer y.

he city has a number of sewers and a plan has been adopted make the system general. New sewers are being made every r. Some difficulty has been experienced in compelling house- lers to connect their houses with the sewers, but the board health is working actively and failures to comply when red to connect have been comparatively few. The sewers ty into Chemung river below the city.

e water for the city comes practically from the Chemung r above the city, although the company, which furnishes the r, have dug galleries near the river from which water is ped. Complaint has been made of the condition of the r. It contains some sediment, and at one time marked ence of its not being properly filtered were found in it.

e officers of the board of health are very much embarrassed heir work of compelling people to keep their premises clean, the fact that there is no place for the deposition of garb- and rubbish. It is dumped on vacant lots, used to fill up places, or dumped in the river. The night-soil from privies uite generally thrown in the river now.

the whole Elmira is in fairly good sanitary condition.

me cases of diphtheria and scarlet fever are reported.

lacards are used for houses in which there are cases of con- ous diseases, and the quarantine, although not absolute, is e thorough.

he city has a hospital built to care for small-pox patients ng the war. It is capable of accommodating twenty-five ents and is well away from the city. It would require a floor to make it suitable for cases of cholera.

case of small-pox occurred in the city about four years ago. as cared for in this hospital and the house so well disinfected quarantined that no other case occurred.

here are three railroad depots; that of the Erie, where the a branch of the Erie and the Erie proper connect; that of Delaware, Lackawanna and Western railroad, and that of

the Elmira, Cortland and Northern railroad. The Northern Central railroad uses the Erie depots.

The privies of these depots are in good condition, being connected with the sewers and the water-works.

The members of the board of health seem to understand their powers and duties and act with intelligence and courage in enforcing the law.

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## BINGHAMTON.

Dan. S. Burr, M. D., is health officer. He has as inspector a gentlemen who sought the office of plumbing inspector, but the board of plumbers refusing to grant him a certificate he holds the office of general inspector without the certificate, inspecting the plumbing as a part of his general duties.

About one-third of the city is equipped with sewers which empty into the Susquehanna river about two miles below the source of the water supply. The grounds of the asylum for the insane are drained through the city by a State sewer. New sewers are being made, but inhabitants are now compelled to make connections in all instances where possible.

The water supply is from the river or from large wells, a few rods from the river. Water is pumped directly from the river when the supply from the wells is insufficient.

Garbage is dumped in different places. A great deal is taken away by farmers.

The night soil from privies is taken to a farm outside the city.

Owing to the fact that the employes of the board of health are so few, the sanitary condition of the city is not what it should be.

Placards are not generally used in cases of infectious diseases, the health officer remarking that physicians would not so generally report these diseases were houses compelled to be placarded. The quarantine depends more upon the family physician than on the board of health.

The city has a building in the same yard as the city hospital which has been used as a place for the isolation of cases of infec-

tious diseases. This building if put in repairs would do very well for the accommodation of a very limited number of patients. Six beds being about the limit of its capacity.

There was no information given concerning any recent outbreak of contagious disease.

The depot of the Erie railroad is used by the Delaware and Hudson Canal Company. The privy for males in this depot is not in good condition. It is located at some distance from the depot proper and is used by passengers and tramps indiscriminately. The Delaware, Lackawanna and Western depot located in a thinly settled part of the city is in a fair condition.

The board of health is very much hampered by the unwillingness of the board of plumbers and the common council to act in concert with it. While in Binghamton I attended a meeting of the board of health, said to be the first full meeting held in several years. The discussions lasted until midnight. And the suggestions made, which will probably be acted upon, will be of great value in improving the sanitary condition of the city. The new members of the board of health were not well informed in regard to the powers and duties of local boards of health, but they are earnest men and will, no doubt, soon make a better showing.

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## OWEGO.

The health officer is Dr. W. L. Ayer. He is his own inspector.

The principal streets are supplied with sewers, which empty into the Susquehanna river.

The water supply is from a watershed, fed by springs, on a hill north of the village. The reservoir or watershed show nothing to bring about contamination, but the water has a smell and taste which indicate vegetable decomposition. Although two patent filters are used, the smell and taste are not entirely removed. The company also supplies its patrons with water from a well near the river, but on account of the impurity of the water supplied by the company, many of the people are at present using water from their own wells.

OWEGO, N. Y., *August* 1, 1893.

DR. R. P. BUSH, *Horseheads, N. Y.:*

Dear Sir.—In accordance to agreement with you when here, I write to let you know the condition of our water supply from reservoir after getting in new elbow and drawing our water from about three feet from the surface of pond. After cleaning out pipe of old water and running both filters full capacity to fill up with fresh, we find the water to be sweet and free from all odor, and not a complaint from our consumers. I had diver examine bottom of pond, and he reported it in good condition, being about four inches of clay mud. No logs or brush to be found. We are filtering now with scarcely any alum, barely enough to take out what little sediment there is held in suspension, and I now consider water better for domestic uses than the well water. Will send samples if you wish it.

Respectfully yours,

GEO. G. ROBERTSON,
*Superintendent.*

There is no organized system for the disposal of rubbish and garbage. But complaints are attended to and each householder is expected to clean his own privy and keep his premises in order. Much refuse matter is dumped into the river.

The village has the appearance of being well taken care of and the general sanitary condition is good.

Houses having contagious diseases are placarded.

There are no arrangements for the isolation of cases of contagious diseases. The place has no hospital of any kind.

No recent outbreaks of contagious disease were reported.

The privy of the Erie depot is very offensive, and can be regarded as a nuisance. The Delaware, Lackawanna and Western and the Lehigh Valley depots are in a fair condition.

## WAVERLY.

D. D. Harnden is health officer. He is his own inspector; an icient and fearless officer.

There are several private sewers on the principal streets. hers are now being made. They empty into the Susquehanna er.

The water supply is from two reservoirs, one above the other, watershed draining sixteen hundred (1,600) acres, and being by springs. There were no discovered sources of contamiion, but the water is roily and has a somewhat offensive odor. me of the houses are supplied from the water-works of Sayre. supply for this village is pumped from the Susquehanna er into a reservoir above the village.

Garbage is dumped in low places or in fields near the village. The general sanitary condition is fairly good.

Houses in which there are contagious diseases are placarded l quarantined. The health officer attends personally to the arantine and to the disinfecting of the premises.

There are no arrangements made as yet for the isolation of sons suffering from contagious diseases, but a location, near Lehigh Valley railroad station, situated near East Waverly, s been agreed upon as a convenient place for the erection of ospital or tents in case an outbreak of contagious disease kes it necessary. No report was made of any recent outeak of contagious disease.

The Lehigh Valley and the Erie railroads use the same depot. is in good condition, being connected with the sewers and water-works. The Lehigh Valley depot proper is in East averly. On this road station agents are compelled to disint the premises in their charge, and a sanitary inspector ployed by the road visits each station every two months. e Delaware, Lackawanna and Western depot is across the er in a thinly-settled portion of the village. It is in good dition.

## CORNING.

W. S. Cobb, M. D., is health officer. He employs no under-inspector; seems to be an energetic officer.

About one-third of the city is sewered. The sewers empty into the Chemung river below the city.

The water supply is from a spring at the lower part of the city. This makes quite a pond, which may be contaminated by the setting back of the water of the river during high water. The pond itself needs cleaning badly, although the sediment in the water is allowed to settle in the reservoir, located high above the city, before running into the supply pipes.

There is no definite plan for disposing of garbage, the people themselves choosing their own manner of disposal.

There are few cases of disease reported in the city at present, but diphtheria has been quite prevalent during the spring.

Placards are used for houses having contagious diseases. There are no special arrangements for quarantine.

There is no city hospital for contagious diseases.

All railroad depots — the Fall Brook, the Delaware, Lackawanna and Western, and the Erie — are in good condition.

Advised cleaning the source of water supply and that the glass-works, which employ about 200 men, should make better privies, as the one used leaves the deposit on the shore to be carried away by high water.

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## SALAMANCA.

The health officer is Dr. Julian G. Smith.

There are several sewers emptying into the river. The two principal sewers are on North and South Main streets. The one on the north side emptying under the bridge across the Allegheny river, does very well when the banks of the river are full, but in time of low water the outflow of the sewer is deposited on the shore of the river and creates a nuisance of itself. The one on South Main street empties under the bridge, into the race mentioned in my report of July 29, with the *same* conditions and is equally offensive.

e water supply of Salamanca is from two sources; one a rvoir, supplied by springs and a small watershed; and a flow- well near the river, which is 100 feet deep and furnishes an ndant supply of pure, cold, soft water. The water from this is pumped into the reservoir when the supply from that ce is scanty.

arbage is dumped where the people see fit.

he general sanitary condition of Salamanca is not good. is largely owing to the variable amount of water in the r.

rrangements that would be perfect when the banks of the r are full, become themselves offensive at this time of the r.

lacards are not used on houses where there are cases of tagious diseases.

here are no arrangements for the isolation of patients with tagious diseases.

he Erie railroad depot is a nuisance in itself. The building ld and is situated in a low, muddy place, and the water set- g under with surface washings creates an offensive atmos- re in its vicinity. The outhouses of the New York and nsylvania railroads depots have evidently not been cleaned in e time.

wo members of the board of health, together with the health er, joined me in the inspection of the village. The board of lth has ordered the abatement of the nuisance caused by race. Two plans are proposed; one to build a sewer in the race, ccommodate those private sewers which already empty there, in which others might empty. This would probably improve condition of the race itself, but it would make an additional ense and obstruction to others who are willing to avail them- es of a trunk line for sewering their premises.

he board of health propose to build a sewer along Broad et, the first street parallel with the race, and compel the perty owners on each side of the street to connect with this. y object to this, and one member of the village board of trus- refuses to vote the necessary expense. The Broad street

sewer would doubtless be the greater benefit to the village. The sewer in the race would be the cheaper and quicker way of abating the existing nuisance.

I inclose a letter from Mr. Whipple, attorney for the race owners; himself an owner of one of the sewers and also village attorney. I did not favor any plan but thought the State Board of Health should cause the abatement of the nuisance.

I have visited the town of Cayuta on a complaint of several promient citizens to investigate diphtheria. Three deaths had occurred. The health officer, Dr. Godfrey, being the attending physician. The houses in which they occurred were in low, wet places and with unsanitary surroundings. There was, at first, no quarantine, but the places have now been disinfected and quarantine is observed for the family now afflicted. The same course was taken in Spencer, but a quarantine was established; no deaths. I have also inspected several creameries and advised better sanitary regulations.

Very respectfully, your obedient servant.

R. P. BUSH.

SALAMANCA, N. Y., *July* 28, 1893.

Hon. ROBERT P. BUSH, *Horseheads, N. Y.:*

My Dear Sir.—I am sorry I was not in my office when you called the other day. I wanted to talk the whole matter over with you. It is, as I suggested to you, some feeling on the part of various parties, but I think all the work can be done, condition made proper and healthful without trouble, and that your report will help to expedite the matter, and your suggestions will undoubtedly be carried out promptly.

Will you kindly send me a copy of your recommendations at the earliest possible moment. Naturally Mrs. Fitts and the village desire to do the work with as little expense as possible.

I am, truly yours.

J. S. WHIPPLE,
*Village Attorney.*

## FALCONER.

Village of about 1,000 inhabitants. A suburb of Jamestown.

Dr. H. W. Davis health officer.

Health board meets every month and when called together y health officer.

Sewage and drainage. There is no system of sewerage and ıe natural drainage is poor, as it is situated on low lands along ıe Chautauqua lake outlet.

The water supply is very good, being from artesian wells simi- ır to those of Jamestown.

Garbage is disposed of by the householder under the direc- on of the health officer.

Sanitary conditions. Owing to the lack of drainage and the roximity to Jamestown diphtheria has a strong foothold here, ıd scarlet fever prevails to some extent.

Hospitals. The hospital and pest-house of Jamestown are ithin reach and would be used.

Placards are used and a fairly good quarantine enforced. ailroad depots are in good sanitary condition.

The health officer is active and efficient. Has compelled the ling up of some wells and sink-holes thought to be a source disease.

I advised this course in regard to others.

R. P. BUSH,
*Inspector.*

ALBANY, N. Y., *August* 13, 1893.

ıwis BALCH, M. D., *Secretary State Board of Health:*

Sir.—As inspector of the fifth sanitary division of the State New York, I beg leave to submit to the Board of Health the lowing report of the places visited up to the first day of ıgust:

ın addition I desire to say that in every case I was received dially by the local health officer, and all the information ired was cheerfully given.

I was impressed with the fact that in many instances the visit was looked upon with great favor, as it would serve to awaken the local board to the necessary activity and hasten the remedying of existing evils.

Many wretched conditions were found which only the decisive action of the State department could correct by virtue of its superior power.

I have endeavored to place before the Board in my report, as near as it has been possible for me to ascertain, the exact condition of the places visited; also the suggestions and recommendations made where they were deemed necessary.

I remain, sir, very respectfully yours.

H. SEYMOUR PEARSE.

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## GREEN ISLAND.

### Dr. F. A. W. Rivet.

Sanitary condition of village bad. Has a sewerage system, which is sparingly used. Vaults used almost entirely and odor from same is noticeable in streets. A thorough cleansing and disinfection advised. Garbage collection twice weekly; the throwing of garbage upon river bank a nuisance; advised strict measures to stop its continuance. Local health officers had selected a suitable spot for erection of emergency hospital; had also made arrangements for hasty erection and furnishing of building if necessary; a small shanty now on spot.

Closets in Delaware and Hudson station in good sanitary condition; deodorant would improve them.

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## WEST TROY.

### Dr. P. E. Fennelly.

Streets dirty. Garbage-dump north of Congress street bridge a nuisance; advised abatement of same. Good sewerage system; vaults mostly used; however, these were all cleaned and disinfected during past winter.

An isolated frame building, which would accommodate fifteen tients, in readiness in case of emergency.

Closets in connection with Delaware and Hudson station in cellent sanitary condition. A vault within ten feet of same ilding in very bad condition. Used by employes and travelers d should be removed.

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## COHOES.

### Dr. John Archibald.

General sanitary condition wretched. Sewers wholly inadeiate for proper drainage of city and defective in construction; n outlet two hundred (200) feet from water's edge, creating a lthy swamp. People live directly upon border of this swamp. pen drains exist in streets of city. Many small groups of ouses drain into a neighboring lot, producing an unhealthy, oul-smelling hole. Mill races tapped in many places for sewrage purposes and no traps used.

Business streets in filthy state; slime in gutters. A general verhauling and perfection of sewerage system strongly recomiended; also the abating of the smaller nuisances. A thorough nd systematic street cleaning system necessary.

Garbage spread over garden lands below city. Houses where ontagious disease exist not placarded.

About one and one-half miles out of city is a single-story rame building for contagious diseases; will accommodate welve (12) patients; cared for by an occupant; erected ten (10) ears ago, during a small-pox epidemic.

Vaults at New York Central station in bad sanitary condition; losets at Delaware and Hudson station in good sanitary conition; a deodorant necessary.

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## WATERVLIET.

### Dr. F. J. O'Brien.

Village in fair sanitary condition. No sewerage system. 'aults cleaned in fall of 1892. Location for emergency hospital elected by local health officer and arrangements made for erecion of same in twenty-four hours.

## COEYMANS LANDING AND JUNCTION.

A small stream runs through village and serves as a sewer; in a bad sanitary condition; advised the discontinuance of throwing of garbage in same and the removal of outhouses from sides. Suitable location for emergency hospital procured by local officer and arrangements made for preparation and building of same.

Docks in good sanitary condition.

Closets in West Shore station in fair sanitary condition.

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## ALTAMONT.

### Dr. B. F. Barton.

Village in excellent sanitary condition. No sewerage system. Vaults cleaned and disinfected once a year.

Site could be obtained in twenty-four hours, in case of any epidemic, and a tent erected.

Vaults at Delaware and Hudson station abandoned. Should be cleanded and disinfected and, if not to be used, filled up.

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## AMSTERDAM.

### F. G. Hyland, M. D.

Sanitary condition of city fair. Good sewerage system.

Building of vaults on water or near watershed should be discontiued, and those now there removed. Inspector so advised.

Good system of garbage collection. Some is thrown on bank of river, violating city ordinance.

Site procured two miles out of city for erection of tents, which local health officer has in readiness.

All vaults in city cleaned and disinfected in fall of 189[illegible]. Vault at New York Central station in fair sanitary condition. Use of a disinfectant advisable. Closets in West Shore station in good sanitary condition.

## FONDA.

### Dr. J. J. Buckbee.

Vault system. Cleaned in spring of 1893. Streets in bad condition. Garbage collected and taken from village. A sewerage system would greatly improve general condition of village.

Vaults at New York Central station in bad sanitary condition. Require cleaning and disinfection.

Structure for use in epidemic two miles out. Will accommodate twenty patients.

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## FULTONVILLE.

No health board.

Vault system. Canal and small stream running through village receives garbage of same. Streets scrupulously clean.

Frame house two miles out of village for emergency hospital.

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## FORT PLAIN.

### Dr. A. W. Burt.

Village laying sewer system at present. The watershed badly contaminated. An eggery, barn, pigpen and cheese factory in close proximity with small stream leading directly into reservoir. Slaughter-houses within corporation, with filthy surroundings.

No system of garbage collection. Thrown mostly in canal and creek running through village.

Prompt and decisive action in above matters recommended by inspector. From report of local officer, the local board seems to lack in executive inclination.

Vaults at West Shore station need cleaning and disinfection.

Vaults at New York Central station filled with lime, but in a bad sanitary condition and should be thoroughly cleaned. Proper location for building of emergency hospital selected and preparations for rapid erection of same made by local officer.

## CANAJOHARIE.

### I. Davis Ozumm.

Sanitary condition of village excellent.

Drain carrying off leakage of canal stopped up, backing water up into cellars of neighboring houses. Reported by local officer to State Engineer.

Closets at West Shore station in excellent sanitary condition.

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## PALATINE TOWN.

### Dr. G. L. Myers.

Town in good sanitary condition. System of garbage collection in villages of Palatine Bridge and Nelliston recommended. Inspector recommended the tiling of an open drain near Central tracks at Palatine Bridge. Vaults at New York Central station in fair sanitary condition.

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## ST. JOHNSVILLE.

### Dr. C. C. Vedder.

No system of garbage collection, one recommended. Two slaughter-houses within corporation. Both in filthy condition. Inasmuch as local board has endeavored to a reasonable degree to compel the owners to keep them clean and failed, the inspector advised immediate and effective measures for their removal. Strict enforcement of law with no quarter is here necessary.

Vaults at New York station in good sanitary condition. Vaults at West Shore station in excellent sanitary condition.

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## MINDENVILLE.

Visited by request of health board of Minden Town. The drain leading from the old canal to the new is filled up and creating a stagnant slimy marsh.

Another swamp is formed by leaking water from the canal. The conditions produce a foul-smelling miasmatic atmosphere. Advised town board to visit place and report condition of locality to State Engineer.

## ONEIDA.

### Dr. C. H. Perry.

nitary condition of village wretched. Streets dirty. No r system. The canal feeder and a creek which runs through illage act as sewers. Garbage constantly thrown into both, strewn about the alleys. Many stagnant pools and open is.

lvised a system of garbage collection, a thorough and regu- leansing of streets, a compulsory cleansing of vaults, and a rage system, if it can be brought about.

osets in New York Central station in good sanitary condi- . A vault there in bad condition; inasmuch as there are l closets to be used there is no necessity for the vault.

ault at Ontario and Western station requires cleaning. Closet neida Castle station (joint station of West Shore and Ontario Western) in filthy condition, odor unbearable. This is a flush t and easily kept clean. Requires a thorough cleaning and ifection.

provision for event of an epidemic. Inspector selected a Facilities for rapid building and preparation are at hand.

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## SAUGERTIES.

### S. L. Dawes, M. D., Health Officer.

ault system. All vaults undergoing cleaning and disinfec- at present time.

Vater piped from trout brook, seven miles back in Catskill ntains.

village ordinance compelling burial and disinfection of gar- e, or burning of same. The rules are pretty well complied l.

eneral sanitary condition of village is good. Streets in good lition. Suitable emergency hospital in view. Could be pro- d and made habitable in twenty-four hours. Would accom- ate forty patients.

Vaults at West Shore station require a thorough cleaning and disinfection. Energetic work of present health officer is highly commendable.

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## TOWN OF SAUGERTIES, ULSTER COUNTY.

### W. Kemble, M. D., Health Officer.

Vaults used throughout town. Garbage used as a fertilizer. Receives its water from wells and same source as Saugerties village. Could provide for emergency in two hours.

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## KINGSTON.

### Jacob Chambers, M. D., Health Officer.

About one-quarter of the city is sewered. Many open drains exist and are at present in a filthy condition. A small stream running through village is bordered with outhouses and receives the garbage of numerous families. A large ditch filled with filthy stagnant water and receiving the outflow of a large drain opens into this creek at the location of a dam which throws the water over a low meadow where in winter it freezes and the ice is used by the city. Another "ice pond" receives water from a ditch bordered by outhouses and a large cattle yard. Immediate and rigid measures to right above matters advised. Vaults mostly used and at present are undergoing a thorough cleaning.

Water supply from Sawkill creek.

No definite system of garbage collection. Some collected by superintendent of streets and used for filling in. General sanitary condition of city is poor. Streets are in a fair condition.

At present a number of cases of diphtheria in city.

Quarantine thorough.

An isolated substantial brick house accommodating ten patients in readiness in case of emergency. A brick cook-house detached from same.

Closets in West Shore station in bad sanitary condition. Require a thorough overhauling and constant use of a deodorizer.

The city is in need of a complete system of sewerage.

RONDOUT (Portion of Kingston city).

Streets in a filthy condition. Used as a receptacle for garbage. Abating of this condition advised by regular collection and disposal of same by city.

General sanitary condition of this portion of city very bad.

Steamboat landings in fair condition of cleanliness.

POTTSDAM, N. Y., *August* 1, 1893.

DR. LEWIS BALCH, *Secretary State Board of Health:*

Dear Sir.—I present herewith a report on the general sanitary condition of the places visited in the sixth division. This being the first trip of inspection I know the report to be incomplete, and in many respects, to me, far from satisfactory. However, I know this departure must be productive of good from a sanitary standpoint.

I met with much courtesy and attention from the many health officers I saw upon my trip. When I explained to them the nature of my visit, they expressed themselves, without exception, well pleased, and felt that this departure would bring them into closer touch with the State Board of Health, and therefore would give them many opportunities to render good service to the people of their respective cities and villages not before offered.

I find, however, that only personal inspection of the places, and a call upon the health authorities will get the information required. I have taken a great deal of pains to formulate questions as simple and brief as possible and sent them out, hoping to accomplish something in that manner; not a single report has been made in reply.

Trusting that this report may meet with your approval, and waiting your further orders, I remain,

Your obedient servant.

C. A. BARNETT, M. D.,

*Chief Inspector of the Sixth Sanitary District.*

## I. LONG ISLAND CITY.

### Dr. Milott, Jr., Health Officer.

Has a system of sewerage and drainage. The system of sewerage is faulty in construction, and in many respects inadequate. On Flushing avenue the bed of the sewer is higher than the sewer head. The result is that a return flow of sewage in many houses threatens the very lives of the inmates. I was told that the commissioner of public works had been appealed to in the matter, but nothing, as yet, has been done to abate the nuisance. The water supply is good. There has been no place selected for garbage and the amount in the streets demands such a place at once.

The general sanitary condition is indeed wretched. A large number of sunken lots are scattered over the city, filled with stagnant and stinking water. To add to this wretched condition innumerable geese and ducks run at large and add further pollution to these filthy beds. Cattle and pigs roam over the city at their leisure. In the region of these sunken lots malarial fever is common, and when malignant disease shows itself its ravages are fearful and hard to stamp out.

I was informed that the system of quarantine was wholly inadequate for a successful fight against contagious diseases. In fact, almost a total disregard is paid to the rules in force, except in very bad outbreaks, such as the last outbreak of small-pox.

The railroad and steamboat landings of this place are in a fairly good sanitary condition.

With such a condition as found here it is very easy to imagine the many difficulties met with by the board of health in the discharge of their duties, and in many instances their efforts are commendable.

This place demands a thorough overhauling. If the local health authorities do not or can not alone abate the nuisances, I think it a duty incumbent upon the State Board of Health to act, and in a manner as thorough and prompt as possible. This city is

a close proximity to the city of Brooklyn, and is a center of ravel with its lines leading out to the various points on Long Island.

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## II. FLUSHING.

### Dr. Allen, Health Officer.

The sanitary condition of this place is excellent A thorough system of drainage and sewerage is in use. The water supply is good. The streets are well kept, and every local nuisance is looked after, and, as far as I could learn, promptly taken care of.

The quarantine of houses in which contagious diseases exist is strict and effectual.

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## III. JAMAICA.

### T. J. Flynn, Health Officer

This place has no system of sewerage or drainage. The provisions for carrying off the sewerage of the place are primitive and inadequate.

The cesspools of the village are in a very filthy condition, and no proper system in vogue there to better their condition. No sanitary inspection of the village has been made this year, and I saw many causes to fear for the public health, during my trips of inspection.

The manner of the disposal of garbage is poor and ineffectual. The system of quarantine is loose and inefficient.

There is no house or place of isolation provided in which to care for persons suffering with highly contagious diseases.

The railroad station of the place is well in keeping with the general sanitary condition of the village. Close by one of the main thoroughfares, leading to the station, are located the water-closets belonging to the railroad. The stench from them is very offensive to the passers-by, and the receiving vaults for faecal matter are nearly full and of improper and faulty construction.

I was informed that this village has at present a population of

about 8,000, and is growing rapidly, and that the last Legislature appropriated a large sum of money for the erection of a State Normal School at that place.

This being the case, I advise that the authorities be notified that a new system of sewerage and drainage be put in at once, and that a more thorough system of sanitary law be enforced.

I shall visit this place again and will report progress made. I advise you to write the local health officials calling attention to matters made known to you in this report.

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## IV. BABYLON.

### Dr. E. F. Preston, Health Officer.

Has no system of sewerage or drainage. The sewage of the village is collected in cesspools, in the main, but much dependence is placed upon natural causes to carry the sewage off. They are now putting in a system of water-works.

The general sanitary condition of the place is fairly good. This is not an incorporated village, and its town board is the only one in existence. An effort is now being made to incorporate the village, and a health board will be then formed. This will expedite matters very much, as I find town boards of health are not, as a rule, as zealous in the discharge of their duties as those of villages.

There are no placards used on houses in which contagious diseases exist, and I was informed, upon good authority, that many cases of contagious diseases are never reported nor any system of quarantine established. They have a house selected that can be used for the isolation of patients, if found necessary.

Last winter there was a large number of cases of scarlet fever at Lyndenhurst that was not reported, and no system of quarantine established.

What has been reported of Babylon applies to the condition at Amityville, a village in the township of Babylon.

I visited Sag Harbor and Green Port but failed to see the health officer at either place. I shall report on these places later should I receive answer to questions sent to the authorities since my return.

## V. MOUNT VERNON.

### Dr. Banning, Health Officer.

Has a very good system of sewerage and drainage, with good posal of the sewage. The water supply is from reservoir, l the system is very good.

The garbage is drawn out of the city by persons authorized the board of health. The general sanitary condition of the y is good. I found the authorities well up in matters relating proper sanitary law, and they are aggressive and thorough the enforcement of the same. A thorough inspection of the y has been made by a person authorized by the board.

The railroad station at this place is in good sanitary condition. Tents for the isolation of contagious diseases have been pro-ded, and should any severe epidemic of contagious disease sit this locality, Mount Vernon may rest secure in the vigilance her health authorities.

The health officer requested me to say that they were very xious to eliminate the report of deaths of the New York fant Asylum from the mortality report of the city. I think e request a very proper one.

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## VI. NEW ROCHELLE.

### Dr. Eddy, Health Officer.

Has a system of sewerage and drainage; the sewage is prop-ly disposed of. The water supply is from reservoirs and the pply is good. Garbage is taken from the city by persons pointed.

The general sanitary condition is good, except that part con-cted with what is known as "Mud Flats;" the condition here understood, and a letter to Professor Underhill, of the board commissioners of public works, calling his attention to the atter and the need for its immediate correction, would be oper. The railroad station is in good sanitary condition.

## VII. WHITE PLAINS.

### Dr. Geo. H. Magness, President Board of Health.

They are now perfecting a very good system of sewerag drainage for this place, and the manner of sewage dispos among the best seen in my work of inspection.

The water supply is good, and water free from any form contamination, so far as could be learned.

Garbage drawn from the village to the common dum ground.

The general sanitary condition is good. There is a b running through the village with many nuisances existing the same that should be looked after and foul and threate places cleaned up; called attention of Dr. Magness to the ma and he informed me that the local health authorities had every means they knew of, but with only the results noted

Write them a plan of action. This brook with its filth em into the Bronx river.

---

## VIII. TARRYTOWN.

### Dr. Todd, Health Officer.

So far as could be learned the system of sewerage and d age and water supply of this place is good.

Garbage is properly disposed of, and the sanitary condi is generally good.

Houses having contagious diseases are in quarantine, great care to keep patients isolated is exercised. They ha house of isolation and a hospital in the village.

Railroad and steamboat landings are in good san condition.

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## IX. PEEKSKILL.

### Dr. E. De Motte Lyon, Health Officer.

The systems of sewerage, drainage and water supply o *village* is excellent.

Dr. Lyon was out of town, but other members of the board informed me that a thorough system of quarantine is used in all cases of contagious diseases.

There have been no recent outbreaks of contagious disease. One case of yellow fever has been cared for in this village during the last few years, with no further spread of the disease. The man recovered. All speak well of the health authorities.

The railroad station and steamboat landings of this place are in fairly good sanitary condition.

No place has been selected as a house of isolation.

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## X. POUGHKEEPSIE.

### Dr. James S. Wilson, Health Officer.

The general sanitary condition of this place appeared to be fairly good. Dr. Wilson was out of the city at the time of my visit. I asked him to make a report touching the several matters pertaining to the sanitary conditions, but his report is meager and unsatisfactory.

He requests that the veterinary appointed by the State inspect the herds supplying milk for the city. This is a matter upon which I desire further information.

Respectfully submitted.

C. A. BARNETT, M. D.,
*Chief Inspector of the Sixth Sanitary Division.*

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THERESA, *September* 1, 1893.

Dr. LEWIS BALCH, *Secretary State Board of Health:*

Dear Sir.—Having visited and inspected the following places, will report as follows, viz.:

## GOUVERNEUR.

### August 1.

Population, 4,000. Health officer, Dr. G. E. Baldwin. Main street is sewered, emptying below dam in Oswegatchie river; other sewerage, open sewers, emptying into creek and cesspools.

Good system of water-works, taken from Oswegatchie river from above the cemeteries.

Each individual takes care of garbage, by burning or burying.

General sanitary condition is fairly good.

Houses having contagious diseases are placarded and efficiently quarantined.

No contagious disease hospital. Have located ground, with the idea of using tents for the isolation of cholera patients, if any.

No recent outbreaks of contagious diseases.

Railroad station in good sanitary condition.

Advised a system of sewerage running in valley between streets, Rock Island east to river, between Rowly and Trinity south and Barnes north, and benefiting from 800 to 1,000 people on either side of the valley; the local health authorities agreeing with me that the system should be put in.

August 3.

Having visited and inspected Potsdam; population, 5,000; reports Dr. J. S. McKay health officer. Sewerage, good system trapped with separate system for drainage, both emptying into Rackett river below dam. Water supply pumped from Rackett river to reservoir and from reservoir into mains. Garbage removed to the country every day. General sanitary condition good. Houses having contagious diseases placarded and efficiently quarantined. No arrangements for isolation of patients with contagious diseases. No recent outbreaks of contagious diseases.

Railroad depot in good sanitary condition. Some complaints are made as to the quality of water for drinking. Advised either filtering or taking from a spring five miles out.

August 3.

Having visited and inspected Canton, St. Lawrence county; population 3,000; Dr. Jas. S. Gale health officer, reports:

Sewerage, good system with traps, emptying into Grass river below falls. Splendid water supply from Grass river; taken

om far enough above village to avoid all contamination. Water om wells is good.

Garbage.—Dumping ground in country where all garbage is awn.

General sanitary condition splendid.

Houses having infectious diseases placarded and patient and urse isolated; have pest-house for patients with contagious seases.

No recent outbreak of contagious diseases.

Privy at railroad station connected with sewer and depot in od sanitary condition; jail, school-house and all other public ildings in good sanitary condition.

Canton board fearless and very efficient.

August 4.

Having visited and inspected Malone; population, 5,000; Dr. fred G. Wilding health officer; report:

Sewerage.—Good tile and flushing system; flushed with ninety-e pounds pressure every two weeks; emptying into Salmon ver.

Water supply from mountain brooks. Small reservoir eight les up the mountain; also reservoir three miles out, kept as serve, siphoning into a third reservoir by automatic arrangement.

Families take care of their own garbage.

Houses having contagious diseases placarded and efficiently arantined.

Houses fumigated after recovery or death.

General sanitary condition is good.

Have made arrangements for house in country if needed for ntagious disease hospital.

No recent outbreak of contagious diseases.

Public buildings in good sanitary condition.

August 7.

Having visited and inspected Utica; population, 46,000; Dr. m. J. Schuyler health officer.

Sewerage.— Good system of brick and tile; emptying into the Mohawk river.

Water supply.— Reservoir three miles out; fed from springs and is first rate.

Garbage carted out of city two miles, and used for pigs and fertilizing.

General sanitary condition fairly good.

Houses having contagious diseases placarded; patient and nurse quarantined.

To use ravine hospital for contagious diseases; capacity, twelve patients.

The only recent outbreak is scarlet fever in a mild form; not spreading.

Advised sewering from Court street to Columbia street for use of inhabitants on Nail creek, as it is now sewage empties into Nail creek.

An efficient working board in Utica.

Kindly send health officer pamphlets relative to contagious diseases.

August 8.

Having visited and inspected Oriskany Falls, town of Augusta; Dr. J. G. Pollock health officer of town; Dr. H. C. Bartlett, health officer of corporation.

No system of sewerage.

Sewage and garbage carted away and thrown into the canal principally.

Water supply from springs and wells good.

General sanitary condition good.

Houses partly quarantined in diphtheria only.

My interview was with Dr. Pollock.

No arrangements for isolation of patients with contagious diseases.

No recent outbreaks of contagious diseases. Railroad depot in good sanitary condition. Advised that the garbage be carted away and burned or buried, and a more effectual quarantine of houses with infections diseases. Also a selection of grounds

and using tents for the isolation of patients with contagious diseases.

August 8.

Having visited and inspected Ilion; population 4,350; Dr. H. A. Ward health officer.

Sewerage contract let for system of trap sewering to be completed by December first next.

Garbage hauled into the country.

Water supply from springs and running streams three miles in the country through pipes sixty feet in the air and drops back into a reservoir, then through filtering bed to settling pond, thence into main reservoir.

Garbage hauled into the country.

General sanitary condition extra good.

Houses with contagious diseases placarded and patient and nurse quarantined.

House one and one-half miles out for contagious disease hospital; capacity, ten.

No recent outbreak of contagious diseases.

Railroad depot in good sanitary condition.

Think Ilion all right in good sanitary condition.

August 8.

Having visited and inspected Mohawk; population, 1,700; health officer, Dr. G. P. Rasback, report:

Sewerage.—Partial system of tile and traps emptying into Erie canal.

Cesspools for part not sewered.

Water supply from spring three-quarters of a mile out.

Garbage carted into the country.

General sanitary condition good.

Have located house if needed for cholera patients.

Have had only four cases of infectious diseases in years.

They complain of pond on State land between the armory and the Erie canal. Can be filled in with earth from a hill near by at a nominal expense. I advise that it be done.

August 9.

Having visited and inspected Herkimer; population, 4,
Dr. Irving O. Nellis health officer, report:

Sewerage.— They are now putting in a flush-tank syst
approved by the State Board, to be completed October thi
first, emptying into Mohawk river.

Water supply, from a system of driven wells, pumped di
into the main, with the over-production forced into a stand-

Garbage carted one-half mile out and dumped into
Mohawk river.

General sanitary condition is good.

Houses with contagious diseases placarded and whole fa
quarantined.

Have purchased ground and will erect a pest-house.

Recent outbreak of contagious disease, three cases diphth
(not spreading).

Privies at depot cleaned and disinfected.

Advised the burning of garbage.

August 10.

Having visited and inspected Gloversville; population, 16,
Dr. J. S. Phillips health officer, report:

Sewerage.— Tile and trap system, emptying into Cayud
creek.

Water supply.— Gravity system, from springs two to
miles out.

Garbage carted out of city and fed or dumped.

General sanitary condition good.

Houses with contagious diseases placarded and quarantin

Have hospital for contagious diseases, with a capacity of f
Will use tents and county grounds, if necessary.

Railroad depot in good sanitary condition.

Both water and sewerage system flushed monthly.

Advised boxing or tiling creek to carry off sewage and wa
creek in bad sanitary condition.

August 11.

Having visited and inspected Johnstown; population, 8,500; Dr. J. E. Burdick health officer:

Sewerage.—Good system, emptying into Cayudutta creek.

Water supply, from Cold springs, three reservoirs; water good.

Garbage carted away and burned.

General sanitary condition good.

Houses having infectious diseases placarded and patient and nurse quarantined.

Will locate grounds and use tents, if necssary, for isolation of contagious diseases.

Railroad depot in good sanitary condition.

Health board are proud of their sanitary condition, and have no requests to make.

Public buildings and school-houses are sanitarily correct.

August 11.

Having visited and inspected Little Falls; population, 9,000; Dr. C. H. Glidden health officer, report health officer away; interviewed chairman and trustees of board.

Sewerage, tile and trap system, emptying into the Mohawk river.

Water supply, gravity system, from springs eleven miles out, good. General sanitary condition good. Houses with infectious diseases placarded, and family quarantined.

No arrangements made for isolation of patients with contagious diseases. No recent outbreak of contagious diseases. Railroad depot in good sanitary condition; water-closets connected with sewerage.

August 12.

Having visited and inspected Frankfort; population, 3,800; Dr. V. E. Hayes health officer, report:

Sewerage, no system; natural drainage to the canal; privy vaults cleaned and contents buried.

Water supply from driven wells at an average depth of twenty-two feet through clay, with some springs and dug wells.

Garbage, no care taken of it; sanitary condition, very good.

Houses with infectious diseases, family and nurse quarantined.

No arrangements for isolation of patients with contagious diseases.

Railroad depot in good sanitary condition.

Advised the carting away of garbage and burning or burying.

Also, to locate site and building pest-house or use tents for the isolation of patients with infectious diseases.

They complain of Moyer creek (a State creek), leaking through the wall and backs into the cellars, causing typhoid fever. The wall is improperly constructed, and I advised conferring with the Superintendent of Public Works, it being a portion of the old Chittenango canal, Frankfort, Oneida county.

## August 16.

Having visited and inspected Camden; population, 2,500; Dr. H. W. Leonard health officer, report:

No system of sewerage; privy vaults cleaned and contents put in pits and covered with earth; water supply from springs, brooks, and surface, three miles out; gravity system, ninety pounds pressure; garbage burned.

General sanitary condition very good; houses with contagious diseases efficiently quarantined.

Will use fair grounds and sheds for the isolation of patients with contagious diseases.

No recent outbreak of contagious diseases. A few mild cases of scarlet fever last winter.

Sanitary condition of railroad depot good.

Advised the board of health of Camden to tap an extra spring near reservoir, giving more and purer water.

Also, to have a test made of the water they are now using.

I think Fish creek, as it now is, to be a nuisance and unsanitary.

Advised that the corporation purchase a small mill property and removing a dam thus giving a current to the water and improving condition of the creek.

August 17.

visited and inspected Whitestown, which includes
ɛ Mills, population 2,552; Clark's Mills, 398; Oriskany,
Whitesboro, 1,663; Dr. Chas. E. Smith, Whitesboro,
icer, report:

burned or buried.

l drainage and underdrainage into Sauquoit creek,
to the Mohawk river.

supply good; gravity system of spring and well water
r private party and rents to one-sixth of the inhab-
lance use water from wells.

e carted away and burned.

l sanitary condition excellent.

with contagious diseases efficiently quarantined.

g done for the isolation of patients with contagious
)r for the erection of a hospital.

ent outbreak of contagious diseases.

l a system of sewerage of one-third mile on Foster
Whitesboro, connecting with sewer now emptying on
hence under the canal to Sauquoit creek.

August 18.

visited and inspected Waterville; population 2,500;
reston health officer:

ge.—Not much of any; what little they have empties
creek and thence into the Mohawk river.

supply from wells, and poor; must be contaminated
spools.

ı small gravity system furnishing spring and surface
)m two miles out, which is very good.

ge left for individuals to care for and is not properly

l sanitary condition is fairly good, though some typhoid

s with infectious diseases placarded and efficiently
ıed.

No recent outbreaks of contagious diseases.

Would like to have the State order a system of sewerage.

(See special report.)

JAMES E. KELSEY,
*Chief Sanitary Inspector First Division.*

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## Special Report.

### WATERVILLE.

Number dwellings, 393; outbuildings, 341; population, about 2,500; cesspools, 170; creeks drainage, 46; surface drainage, 40.

There is, near the center of the village, a mill pond of small dimensions, into which empties drainage and sewage from privy vaults, in shops, hotels, stores, and the humble class of dwellings on either side of the pond. The pond is also, to a certain extent, used as a dumping place, practically making the pond an open cesspool, in the center of the village, and a breeder of infectious and contagious diseases.

By purchasing the mill property and removing dam a sufficient fall would be had to give draft to current to carry away natural pollutions. Then, with a proper system of sewerage, which could very easily be made, and of which they are very much in need, to carry away sewage from dwellings and public buildings to the creek, thence into the Mohawk river, the sanitary condition of the place would be good.

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THERESA, *September* 1, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.:*

Dear Sir.—Having visited and inspected the town of Leray, including Evans Mills, population 600; Black River, 800; Great Bend, 200; and Leraysville, 150; Dr. L. E. Jones, Evans Mills, health officer, report:

Great Bend and Leraysville in good sanitary condition. The sanitary condition of Black River is good, with good natural drainage and a good supply of well water.

Evans Mills has no system of drainage, but fair natural drainage to Pleasant creek.

Sewage not taken care of. Privies not generally cleaned. No attention paid to garbage.

Water supply from wells very good.

General sanitary condition fair.

Houses with contagious diseases sometimes quarantined.

No arrangements for isolation of patients or for a contagious-disease hospital.

No recent outbreaks of contagious disease.

Creek allowed to fill with brush, the water backing up and filling cellars, causing malarial troubles.

I advised the clearing of the creek and thus allowing the water to carry away deleterious matter.

They really need shaking up at that place.

JAMES E. KELSEY,
*Chief Sanitary Inspector First Divison.*

## REPORT OF CHIEF INSPECTOR OF SECOND DIVISION FOR MONTH OF AUGUST, 1893.

| DATE AND PLACE INSPECTED. | Approximate population. | Health officer. | System of drainage. | Sewerage disposal. | Water supply. |
|---|---|---|---|---|---|
| August 2, Skaneateles | 1,500 | Dr. Martin | None | None | Skaneateles lake, wells, cisterns. |
| August 4, Clyde | 2,600 | Dr Arnold | Very imperfect. | None | Clyde river and wells. |
| August 8, Ellisburg* | | | | | |
| August 9, Sea Breeze | 300 | | None | None | Wells and Lake Ontario. |
| August 9, Williamson | 1,600 | Dr. R. S. Carr | None | None | Wells and cisterns. |
| August 10, Sodus | 1,000 | Dr. Myers | None | None | Wells and cisterns. |
| August 10, Sodus Point | 500 | Dr. F. L. Wilson | None | None | Wells and cisterns. |
| August 10, Wolcott | 1,500 | Dr. Warner | None | None | Wells and cisterns. |
| August 10, Red Creek | 600 | Dr. D. B. Horton | None | None | Wells and cisterns. |
| August 11, Fair Haven | 600 | Dr. Albert Hall | None | None | Wells and cisterns. |
| August 15, Boylston† | | | | | |
| August 17, Syracuse | 90,000 | Dr. D. M. Totman, 303 Montgomery street. | Very bad | Into Lake Onondaga | Onondaga creek. |
| August 18, Liverpool | 1,500 | Dr. Whitney | None | None | Wells and cisterns. |
| August 22, Auburn | 26,000 | Dr. Forman | Good | Into Owasco river | Owasco river above city; good. |
| August 23, Seneca Falls | 6,000 | Dr. William H. Follett | None | None | Wells and cisterns. |
| August 23, Waterloo | 4,000 | Dr. O. W. Peterson | None | None | Wells and cisterns. |
| August 24, Lyons | 4,500 | Dr. J. S. Reed | None | None | Wells and cisterns. |
| August 24, Palmyra | 2,000 | Wm. J. Hennessy | None | None | Wells and cisterns. |
| August 24, Newark | 3,800 | Dr. Augustus A. Young | Not good | Into Erie canal | Wells and cisterns. |
| August 25, Port Byron | 1,000 | Dr. A. D. Stewart | None | None | Wells and cisterns. |
| August 25, Weedsport | 1,500 | Dr. H. M. Haskell | None | None | Wells and cisterns. |
| August 25, Jordan | 1,300 | Dr. S. C. Warren | None | None | Wells and cisterns. |

* Inspected cheese factories at request of Dr. Chapman, health officer of town; found factories in unsanitary condition; advised a better system of drainage. Dr. Chapman served notice that unless they were put in better condition he should have them closed.

† Inspected two herds of cows near Mannsville; found four cows dead, several others sick with what I considered splenic fever; requested milk not to be delivered at factories and that herds be quarantined. Wrote Dr. Balch regarding these cases.

## REPORT OF CHIEF INSPECTOR OF SECOND DIVISION FOR MONTH OF AUGUST, 1893 — (*Continued*).

| DATE AND PLACE INSPECTED. | Garbage disposal. | General sanitary condition. | Placards. | Quarantine. | Isolation. | Recent contageous diseases |
|---|---|---|---|---|---|---|
| August 2, Skaneateles | None | Good | Used | Enforced | None | None. |
| August 4, Clyde | None | Not good | Used | Enforced | None | None. |
| August 8, Ellisburg | | | | | | |
| August 9, Sea Breeze | None | Good | | | None | None |
| August 9, Williamson | None | Good | Used | Enforced | None | None. |
| August 10, Sodus | None | Good | Used | Enforced | None | None |
| August 10, Sodus Point | None | Good | Used | Enforced | None | None. |
| August 10, Wolcott | None | Good | Used | Enforced | None | None. |
| August 10, Red Creek | None | Not good | Used | Enforced | None | None. |
| August 11, Fair Haven | None | Good | Used | Enforced | None | None. |
| August 15, Boylston | | | | | | |
| August 17, Syracuse | Into marsh on Onondaga lake | Not good | Used | Enforced | Good emergency hospital | None |
| August 18, Liverpool | None | Good | Used | Enforced | None | Few cases diphtheria. |
| August 22, Auburn | Dumped outside city limits | Good | Used | Enforced | Good hospital for contagious diseases | None. |
| August 23, Seneca Falls | None | Not good | Used | Enforced | None | None. |
| August 23, Waterloo | None | Not good | Used | Enforced | None | None. |
| August 24, Lyons | None | Not good | Used | Enforced | None | None. |
| August 24, Palmyra | None | Good | Used | Enforced | None | None. |
| August 24, Newark | None | Good | Used | Enforced | None | None. |
| August 25, Port Byron | None | Good | Used | Enforced | None | None. |
| August 25, Weedsport | None | Not good | Used | Enforced | None | None. |
| August 25, Jordan | None | Fair | Used | Enforced | None | None. |

## REPORT OF CHIEF INSPECTOR OF SECOND DIVISION FOR MONTH OF AUGUST, 1893—(*Concluded*).

| DATE AND PLACE INSPECTED. | Railroad depots. | Steamboat landings. | Advice given to requests made by local authorities. | Opinions, suggestions and general remarks. |
|---|---|---|---|---|
| August 2, Skaneateles | Sanitary | Sanitary | Advised system of sewerage | See special report made August 4. |
| August 4, Clyde | Sanitary | None | See special report made August 4 | See special report made August 4. |
| August 8, Ellisburg | | | | |
| August 9, Sea Breeze | Sanitary | Sanitary | | This is a small village at mouth of Genesee river on Lake Ontario, opposite Charlotte. Mostly a summer resort. |
| August 9, Williamson | Sanitary | None | Advised disinfection of slaughter-house and a system of garbage disposal. | |
| August 10, Sodus | Sanitary | None | | |
| August 10, Sodus Point | Sanitary | Sanitary | Local health officer requested the appointment of an inspector of vessels. | This is a port of entry on Lake Ontario |
| August 10, Wolcott | Sanitary | None | | |
| August 10, Red Creek | Unsanitary | None | | The local board had not met in several months. Advised meeting and action to place town in more sanitary condition. |
| August 11, Fair Haven | Sanitary | Sanitary | Local health officer requested and I advised the appointment of an inspector of vessels. | This is a port of entry of considerable importance on Lake Ontario. |
| August 15, Boylston | | | | |
| August 17, Syracuse | Sanitary | Sanitary | | The water supply now very unsanitary; now being improved by a system from Skaneateles lake. Drainage being rapidly improved by new sewers. |
| August 18, Liverpool | Sanitary | None | Health officer requested me to assist him in having a culvert opened under the Erie canal. | Referred the health officer to superintendent of canals. Think culvert should be built in order to drain a malaria-producing marsh. |
| August 22, Auburn | Sanitary | None | | |
| August 23, Seneca Falls | Sanitary | None | | |
| August 23, Waterloo | Sanitary | None | Local board requested me to examine small stream serving as an open sewer. Advised that stream be covered for a public sewer. | This village greatly in need of proper sewerage. |
| August 24, Lyons | Sanitary | None | | This village greatly in need of proper sewerage. |
| August 24, Palmyra | Sanitary | None | | This village greatly in need of proper sewerage. |
| August 24, Newark | Sanitary | None | | Inspected Hospital for Feeble-minded Women. Found sewerage bad. |

| | | | | |
|---|---|---|---|---|
| August 25, Jordan..... | Sanitary..... | None..... | dry times a great nuisance. Recommended its conversion into public sewer. | Need sewers. |

All of which is respectfully submitted.

Very respectfully.

FRANK S. LOW,
*Chief Inspector Second Division.*

56 PULASKI, N. Y., *September* 4, 1893.

## REPORT OF JOHN A. STAPLETON, M. D., CH SANITARY INSPECTOR, THIRD DIVISION.

LEWIS BALCH, M. D., *Secretary State Board of Health, A N. Y.:*

Dear Sir.—I have the honor to submit to you the foll report for the month of August, 1893:

### BROCKPORT, MONROE COUNTY.

**Health Officer, B. S. Coleman, M. D.**

In my previous report to you I partially reported on Broc I was asked to again visit the place, as there were several ca typhoid fever, as to the cause of which there was some diffe of opinion. I again visited Brockport, and find that the s of contagion, in my opinion, can not be attributed to the di tion of the night soil, which it is claimed as a source. deposited on farms in the town of Sweden, at least one mil a half to two miles from the village of Brockport, and at one mile from the houses in which the patients live who typhoid fever. It is claimed that the milk from the cows graze in these pastures in which the night soil is dumpe the cause, but it is only a speculation.

In looking over some private sewers I found them compl clogged up and with almost no fall; as I stated in my pre report concerning this open ditch which runs through the ern and central part of the village of Brockport, I think a source of injury to the public health of that portion of B port. A portion of the southern and western parts of B port have an apology for a sewer, which empties into this drain. This open drain is about one-quarter to one-half long, and the stench emanating from it at times is some dreadful. The health board seems to have difficulty in enf rules directing the villagers to disconnect all drains cont excreta with the sewer. The majority of the health board ar of the opinion that the only remedy is in a sewer, but they to fear a difficulty in procuring an outlet. At present the

ins as an open drain, after passing from Brockport through ie town of Sweden, and is increased to quite a swift running :ream for a number of miles, before it empties itself into Lake ntario. I advised the health board to confer with you in :gard to this matter, and that I would also give you a report, hich I herewith submit.

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## ROCHESTER, MONROE COUNTY.

### Health Officer, Wallace Sibley, M. D.

Sewerage system of Rochester good. Manner of disposal is y trunk sewers, which empty into the river below Genesee alls.

Water supply from Hemlock lake, thirty miles distant, hrough pipes. The supply has not been sufficient, but another :onduit pipe is being laid, and expect to have it reach Rochester n less than a year. At present several wells have been sunk, and the supply has been increased sufficiently for the present. Water is of good quality.

Garbage disposed of to farmers outside of city.

General sanitary condition good, with the exception that Rochester has been unable to have sufficient water for sewer flushing during the past summer.

Placards are used for houses having contagious diseases, and is quite efficient.

Rochester has a contagious disease hospital in which 200 patients can be accommodated. Besides this, which is a permanent structure, the health board has plans for an emergency hospital which can be built in forty-eight hours, if necessary.

As to fumigation and disinfection of baggage and luggage, a :ar has been ordered built in which moist and dry heat can be ised; can be taken to any part of the city.

For the past year many cases of diphtheria and scarlet fever ave existed.

Railroad stations are kept in good sanitary condition.

## CHARLOTTE, MONROE COUNTY.

### Health Officer, W. Ottowa, M. D.

No system of sewerage. Some natural drainage to Genesee river.

Water supply from wells, which is considered fair.

No disposition of garbage.

General sanitary condition considered fair.

Placards are used for houses having contagious diseases and considered efficient.

No arrangements had been made for isolation of patients having contagious diseases or for the reception of cholera patients should it become necessary.

No recent outbreak of contagious diseases.

Railroad station and steamboat landings in good sanitary condition.

Have advised health board as to the necessity of preparing for the reception of cholera should it be necessary. They have taken the matter up and have secured tents which can be used should it be necessary until a suitable building could be prepared to be used as a hospital. There is a piece of land owned by the State within one-eighth of a mile from railroad station and steamboat landing, on which a hospital could be built, if necessary.

Charlotte is one of the principal ports on Lake Ontario; it is also a port of entry. Hundreds of passengers come from Canada during the week. Charlotte also contains a station on the Rome, Watertown and Ogdensburgh railroad. Through here many emigrants pass going west. I suggested to the health officer that he watch, in a general way, the steamers coming from Canada, and also to have an eye on the Rome, Watertown and Ogdensburgh station until such times as the State or federal authorities deem it necessary to appoint local inspectors.

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## GREECE, TOWN, MONROE COUNTY.

### Health Officer, J. Carpenter, M. D.

This includes Mt. Reed, North, South and West Greece, part of Charlotte and Manitou. These are very small places and very thinly populated.

No sewerage, and natural drainage to Lake Ontario.

Water supply from wells.

No general disposition of garbage.

General sanitary condition considered good.

Placards are sometimes used for houses having contagious diseases.

No arrangements for the isolation of patients having contagious diseases.

No recent outbreaks of contagious diseases.

Railroad stations, sanitary condition, good.

Advised health officer as to the necessity of formulating plans for an emergency hospital for contagious diseases, if necessary.

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## PARMA, TOWN, MONROE COUNTY.

### W. W. Williams, M. D., Health Officer.

This includes all that portion outside of the village of Parma. There are a very few inhabitants in the town and sanitary condition is good.

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## PARMA, MONROE COUNTY.

### Health Officer, F. F. Thornton, M. D.

No system of sewerage. Drainage is to Sandy creek, south of the village of Parma, and empties into Lake Ontario.

Water supply from wells.

No general disposition of garbage.

General sanitary condition considered good.

Placards used for houses having contagious diseases and considered quite efficient.

No arrangements have been made for isolation of patients or a contagious-disease hospital.

No recent outbreak of contagious diseases.

Railroad station in good sanitary condition.

Have advised health officer that he should immediately formulate plans for the building of a hospital or obtaining of build-

ing that could be used for that purpose, in case it was necessary to treat cholera patients. Also that he must procure a place for disinfection of baggage and luggage.

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## HAMLIN, TOWN, MONROE COUNTY.

Health Officer, E. Darrow, M. D.

Hamlin, town, includes East and North Hamlin and Kendall Mills. These towns are very thinly populated.

No system of sewerage. Drainage is natural, towards Lake Ontario, which is three to five miles distant.

Water supply from wells.

No general disposition of garbage.

General sanitary condition considered good.

Placards used to some extent for houses having contagious diseases.

No arrangements have been made for isolation of patients having contagious diseases, and no contagious-disease hospital.

No recent outbreak of contagious diseases.

Railroad stations in good sanitary condition.

Advised as to the necessity of formulating plans for a contagious-disease hospital, in case of an outbreak of cholera.

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## KENDALL, TOWN, ORLEANS COUNTY.

Health Officer, D. W. Bamber, M. D.

This includes Kendall, East and West Kendall.

No system of sewerage. Drainage natural and into creek, which empties into Lake Ontario.

Water supply from wells.

No general disposition of garbage.

General sanitary condition has been improved by house to house inspection and general cleaning up of the villages and closets.

Placards are used for houses having contagious diseases, and considered quite efficient.

building has been obtained for use in case of an outbreak holera; also a building that can be used for disinfection and igation of baggage.
ailroad stations in good sanitary condition.
o recent outbreak of contagious diseases.

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## CARLTON, TOWN, ORLEANS COUNTY.

Health Officer, E. Whittier, M. D.

his includes Carlton, East Carlton, Carlyon, Waterport, kville and Oak Orchard.
o system of sewerage. Natural drainage towards Oak hard creek, which empties into Lake Ontario.
ater supply from wells.
neral sanitary condition considered good.
cards used for houses having contagious diseases.
arrangements have been made for the isolation of patients, no contagious-disease hospital.
recent outbreak of contagious diseases.
ilroad stations and steamboat landing in good sanitary ition.
vised health officer as to the necessity of caring for cholera nts, should it become necessary.
k Orchard has been quite thoroughly cleaned and put into od sanitary condition the past summer.

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## YATES, TOWN, ORLEANS COUNTY.

Health Officer, Charles E. Fairman, M. D., Lyndonville.
tes, town, includes Yates, Lyndonville, County Line and ra.
system of sewerage. There are a number of open ditches lead into Oak Orchard creek.
bage disposed of to farmers.
eral sanitary condition good.

Placards are used for houses having contagious diseases considered quite efficient by health board.

No arrangements for the isolation of patients or contag disease hospital.

No recent outbreak of contagious diseases.

Railroad stations in good sanitary condition.

Health board have engaged tents should it become neces to use them in case of cholera; also a building near rail station for the disinfection of baggage and mail.

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## SOMERSET, TOWN, NIAGARA COUNTY.

### Health Officer, J. B. Higgs, M. D.

This includes Barkers, Somerset, West Somerset and Road.

No system of sewerage.

Water supply from wells.

No general disposition of garbage.

General sanitary condition considered good.

Placards used for houses having contagious diseases and sidered quite efficient.

Arrangements have been made whereby a building has secured one mile from station that can be used as a conta disease hospital, in case of necessity; can accommodate t or thirty patients. Also a place for disinfection and fumig of baggage and passengers.

No recent outbreak of contagious diseases.

Railroad stations in good sanitary condition.

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## NEWFANE TOWN, NIAGARA COUNTY.

### Health Officer, M. H. Cole, M. D.

This includes Newfane, Olcott, Ridge Road, Hess Road Coomer station.

No system of sewerage. Drainage natural into a creek, empties into Olcott harbor on Lake Ontario.

Water supply from wells.

No general disposition of garbage.

General sanitary condition fair.

Placards used for houses having contagious diseases, and considered efficient.

No recent outbreak of contagious diseases.

Railroad stations in good sanitary condition.

Steamboat landings and harbor in good sanitary condition.

No arrangements for isolation of patients. No contagious-disease hospital. The health officer insisted on a quite thorough cleaning of the harbor (Olcott) and dwellings.

The sewerage in Newfane village is considered by the health officer to be decidedly poor, and would like the advice of the health board as to what he should do in recommending a new sewer. The natural advantage for the emptying of a main sewer is excellent and the outlet would be within one-half a mile of the village of Newfane should there be a sewer built. At no season of the year are all cellars entirely dry.

Advised him as to the necessity of a contagious-disease hospital, in case it was necessary, and he informed me that the health board would take immediate steps to perfect plans for a suitable building to accommodate patients, and for the fumigation and disinfection of baggage and passengers.

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## CANANDAIGUA, ONTARIO COUNTY.

### Health Officer, Charles T. Mitchell, M. D.

System of sewerage considered good. Have just completed a large sewer for the western part of the village.

Water supply comes from Canandaigua lake and averages a million gallons a day to supply the village of Canandaigua, and the water is considered good.

General sanitary condition is said to be good. I know that there has been considerable diphtheria and a number of cases of typhoid fever within the past two years; as to the cause I am unable to learn.

Placards have not been used as extensively as they might have been. However, I advised health officer as to the necessity of placarding houses and making the quarantine as efficient as possible.

No arrangements have been made for the care of cholera patients, should it be necessary, and Canandaigua contains no contagious-disease hospital.

No recent outbreak of contagious diseases, except where I have mentioned above.

Railroad station in good sanitary condition, as is also the steamboat landing on Canandaigua lake.

I advised health officer as to the necessity of procuring a suitable building to be used as an emergency hospital in case of necessity and also a building for disinfection and fumigation of baggage and passengers.

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## CANANDAIGUA, TOWN, ONTARIO COUNTY.

### Health Officer A. L. Beahan, M. D.

This includes part of Canandaigua, Cheshire, Academy, Centerfield and Ennerdale. These are all small places and general sanitary condition is considered good. They are not on any railroad stations.

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## CLIFTON SPRINGS, ONTARIO COUNTY.

### Health Officer, Bradford C. Loveland, M. D.

No system of sewerage.

Water supply from wells.

No general disposition of garbage.

General sanitary condition of natural location good.

Has been exceptionally free from contagious diseases.

Placards used when necessary for contagious diseases, and the quarantine is considered quite efficient.

Railroad station in good sanitary condition.

No permanent contagious-disease hospital, but a building has been procured, situated about one mile from railroad station, that can be used in case of an outbreak of any contagious disease, *and can* accommodate thirty or forty patients. A building right

ar the depot has been secured in case of necessity to fumigate d disinfect baggage.

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## PHELPS, ONTARIO COUNTY.

### Health Officer, W. A. Howe, M. D.

No system of sewage. Natural drainage into Flint creek, hich empties into Oswego river and then into Lake Ontario.

Water supply from springs three miles distant from village. onsidered good.

Measles have been epidemic the last year.

No general disposition of garbage.

General sanitary condition good. Right here, I may add, that here has been a question as to the propriety of cesspools in e village. I advised health officer to write you in regard to the atter. He said he had already done it.

Placards are used for contagious diseases and considered quite fficient.

A vacant building near station was secured last year in case t was necessary to use it as an emergency hospital, and still tain control of it. Near by also a place for fumigation and isinfection of baggage can be secured.

No very recent outbreak of contagious diseases other than easles have been reported.

Railroad station in good sanitary condition.

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## GENEVA, ONTARIO COUNTY.

### Health Officer, C. D. McCarthy, M. D.

System of sewerage is entirely inadequate to the needs of llage of Geneva. It empties in two different places, one into eneca lake, the other in the outlet.

Water supply from the White Springs about two miles north the village, and also, when this is not sufficient there is a mping station near the lake about on a line with the springs here they pump water from the lake into these reservoirs at e springs.

Garbage disposed of to farmers and partly burned.

General sanitary condition can not be considered good on account of the sewerage and the different epidemics of diphtheria that have passed through Geneva.

I have been informed that they have submitted plans to the State Board for a system of sewerage but they were rejected, and for what reason I was unable to learn, but it is certain that the present system is entirely inadequate to the needs of the village, and seems to be a detriment to public health and to the prosperity of the village of Geneva. In the northern part of the village runs an open drain upon which many closets are built, and empty directly into this drain. It has been flushed several times during the season, but is not sufficient to remove the odor of excreta which would naturally deposit itself on the rough bed of the drain and along its sides.

Placards are used for houses having contagious diseases, and are considered quite efficient.

No arrangements have been made for the isolation of patients and no contagious-disease hospital exists.

Railroad station in good sanitary condition.

Steamboat landings in fair sanitary condition.

Advised health officer as to the necessity of preparing a building or formulating plans for such a building that could be used in case of an emergency in the outbreak of an epidemic of cholera or other contagious diseases, also they should prepare plans for building for fumigation of baggage and passengers.

This open drain in the northern part of the village should be kept entirely clean, or it could be so fixed that it could act in the capacity of an outlet sewer in that part of the village with no great amount of expense. I suggested to the health officer that he write you concerning it.

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## PENN YAN, YATES COUNTY.

### Health Officer, J. M. Waddell, M. D.

No system of sewerage. There are a few open drains and they are more of a detriment to public health than they are a benefit. They empty into the outlet of Keuka lake and also into the lake.

The water supply for family purposes comes from wells. There is a small system of water-works but only for business and fire purposes, etc., and consists principally of mains laid on one or two streets. It seems strange with such an abundant supply of good water near by that Penn Yan should have no system of water-works. The health officer informs me that many wells are unfit for use. I advised him to have them immediately closed or to take steps to put them in a condition to be used.

No general disposition of garbage, although it is claimed that sanitary condition is good. Can not consider it so from the lack of water. No sewerage, no general cleaning of closets; and taking into consideration that there are many contagious diseases I think there is a great opportunity for general sanitary improvement.

Placards are used for houses having contagious diseases and considered efficient.

No arrangements have been made for the isolation of patients and no contagious-disease hospital exists.

No recent outbreak of contagious diseases.

Railroad station in good sanitary condition, as are also the steamboat landings. I advised health officer as to the general cleaning of closets and also as to the water supply.

I informed the health board that the State Board of Health expects and requests each health board to have in readiness a contagious-disease hospital, that can be used immediately, in case of necessity.

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## HONEOYE FALLS, MONROE COUNTY.

### Health Officer, B. H. Benham, M. D.

No system of sewerage. There are a few private drains, emptying into Honeoye creek, which empties into Genesee river. The natural drainage of Honeoye Falls is excellent.

The well water supply is good.

No general disposition of garbage.

General sanitary condition good.

Placards are used for houses having contagious diseases, and is considered *by health officer* quite efficient.

No contagious-disease hospital.

No recent outbreaks of contagious diseases.

Railroad stations in good sanitary condition.

Advice given as to the necessity for cholera hospital, should it become necessary, also place for disinfection and fumigation.

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## MENDON, TOWN, MONROE COUNTY.

### Health Officer, B. H. Benham, M. D., Honeoye Falls.

This includes all the territory outside the corporation of Honeoye Falls.

General sanitary condition good.

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## LE ROY, GENESEE COUNTY.

### Health Officer, F. L. Stone, M. D.

There is no general system of sewerage. There are a few private sewers. The natural drainage of Le Roy is excellent. The sewerage empties into Allen's creek, which eventually empties into the Genesee river.

Water supply is from springs, and water is considered good.

No general disposition of garbage.

General sanitary condition fair.

Placards are used for houses having contagious diseases, and considered quite efficient.

No arrangements have been made for the isolation of patients, and Le Roy contains no contagious-disease hospital.

No recent outbreaks of contagious diseases.

Railroad stations in good sanitary condition.

The health officer at Le Roy considers the small system of sewerage there entirely unsanitary, and wishes advice from the State Board in what way to proceed to obtain a system of sewerage sufficient for the town. The natural position of Le Roy is well suited for drainage.

## ATTICA, WYOMING COUNTY.

### Health Officer, W. B. Gifford, M. D.

System of sewerage is private. No general system. The sewerage system is quite inefficient for the town of Attica.

Water supply is obtained by pipe, two miles from the village of Attica. Below you will find the analysis of a sample of water, examined and taken from the reservoir, July twenty-ninth, which shows it is unfit for use. The reservoir is simply a ravine, and contains water from surface drains and the natural drainage from the surrounding country, with no protection whatever. I am informed by the health officer that cattle pasture in the fields about this reservoir, in which is contained the water supply for domestic purposes. This water supply is called "The Crow creek water."

| | Grammes per litre. | Grains per gallon. |
|---|---|---|
| Total solids | 0.370 | 22.8364 |
| Organic volatile | .134 | 8.2704 |
| Inorganic | .236 | 14.5660 |
| Chlorine | .015 | .9268 |
| Ammonia | .00036 | .04443 |
| Albuminose ammonia | .00032 | .03950 |
| Nitrites, small quantity. | | |

Microscopic examination shows the lower forms of life such as would naturally occur in stagnant water. There is a very peculiar and offensive odor, due to the decomposition of dead vegetable matter.

No general disposition of garbage.

General sanitary condition considered good.

Placards used for houses having contagious diseases, and considered quite efficient.

No arrangements for isolation of patients having contagious diseases, and no contagious-disease hospital.

No recent outbreaks of contagious diseases.

Railroad stations have been put in good sanitary condition.

Advised health officer as to formulating plans for hospital, in case of necessity, in order to take care of cholera patients; also a place for fumigation and disinfection.

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## ATTICA, TOWN.

### Health Officer, H. F. Nichols, M. D.

This includes all outside the corporation and contains very few inhabitants.

General sanitary condition good.

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## ALEXANDER, GENESEE COUNTY.

### Health Officer, J. R. Mullen, M. D.

No system of sewerage. Got natural drainage into Allen's creek which empties into Genesee river.

Water supply from wells; generally considered very good, but at this season of the year wells are dry and water does not appear to be entirely pure.

No general disposition of garbage.

General sanitary condition considered good.

Placards are used for houses having contagious diseases and considered quite efficient.

No arrangements for the isolation of patients having contagious diseases and no contagious-disease hospital.

No recent outbreaks of contagious diseases.

Railroad stations in good sanitary condition.

Advice given as to the necessity for preparations for cholera should it become necessary, and also a place for fumigation and disinfection.

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## ALEXANDER, TOWN, GENESEE COUNTY.

### Health Officer, J. B. Miller, M. D.

This includes all outside the corporation, and is very thinly populated.

General sanitary condition good.

HORSEHEADS, N. Y., *September* 6, 1893.

*y State Board of Health, Albany, N. Y.:*

I have the honor to send inclosed herewith report of ons for the month of August. Please give attention reports from Westfield and Wellsville, as there is an feeling in both these places in regard to the matters ed.

oard of health of Jamestown have put on five additional rs, and are doing their best to cope with the diph- y quarantine and cleanliness.

respectfully, your obedient servant.

R. P. BUSH,
*Inspector Fourth Sanitary Division.*

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## HORNELLSVILLE.

ealth officer is Dr. J. H. McNett, who is called upon in emergency. Dr. C. T. Hubbard, the secretary of the s really health officer. The inspecting is done by the s of the board, each one having charge of a ward. The olds monthly meetings.

age.— Although the health officer reports the city well and drained, and the city has appropriated money to irteen (13) miles of sewers, seven and one-half (7 1-2) ing now completed, there are no sewers now in opera- ept one built by the late John McDougal, emptying into isteo river at the foot of Elm street, and one from the ot emptying into the same stream. These and a sewer annery are all that are used at present.

ystem in process of construction, which will empty into r below the city, will drain the city very well.

supply.— The water supply is from a dam on Five Mile ear the village of Fremont. The supply is low and the impure, having a perceptible smell and taste.

ge.— This is taken away by swill men, and the rubbish e street is supposed to be cared for by the street com- er.

General sanitary condition.— A creek, the Canacadea, flows through the city and, as it is very low at present, the privies on its banks and a tannery draining into it make it a source of offensive odors and bad air. When the sewers are complete and connections made the condition will be much improved.

Several cases of scarlet fever and one case of typhoid came to my notice. I also visited a dog-house which has caused many complaints and some correspondence with the State Board of Health and gave directions for its cleansing.

Placards and quarantine.— Placards are used and a kind of quarantine enforced.

Hospitals.— The city pays one thousand dollars ($1,000) a year for rights in a hospital, well situated and well kept, owned by a Catholic society. A place has been selected for a hospital for contagious diseases, of which there have been no recent outbreaks.

Railroad depots.—The Erie depot is in excellent sanitary condition, being connected with city water-works and having a sewer of its own.

Advice.— I advised the employment of more inspectors, and of a city scavenger, and the filtering of the city water.

Everybody is waiting for the completion of the sewers before cleaning up.

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## WELLSVILLE.

Dr. W. W. Grandall is health officer.

Sewerage.— There is one public sewer emptying into the Genesee river and three private sewers with the same receptacle. The night soil is removed by householders or the holes filled up and privies moved.

Water supply.— The water supply is from a well, supplemented at present by water from the river, but several more wells are being driven, and when completed the water obtained will be much improved. It is pumped into a well-constructed reservoir about three (3) miles from the village, and can flow from that when necessary.

Garbage.—The householders and swillgatherers take away garbage.

General sanitary condition.—The village is not in good sanitary condition.

Placards and quarantine.—Placards are used and the quarantine is quite strict in cases of contagious diseases.

Hospitals.—The place has no hospital. Ten years ago there were several cases of small-pox in the village; a house was given for a hospital, and this can be done again if necessary.

Depots.—The railroad depot is in good sanitary condition, except that there is no privy for the accommodation of travelers.

Remarks and advice.—The special cause of complaint in Wellsville is the tanneries. There are three of them under one management, and the refuse from them now that the water in the river is low, works down through the village and gives rise to a most intolerable smell, especially in the upper part of the village, where the land is swampy and the bottom of the river and Vandermarks creek is muddy. Although at present the proprietor is burning the fleshings in his furnaces enough animal matter passes into the drainage to propagate maggots in the refuse along the streams.

I advised that the drainage be collected and disinfected; then flushed down with the liquor from the tan vats, and the channels be kept cleaned out; or that a sewer be made for this purpose to convey it below the village.

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*To the State Board of Health, Albany, N. Y.:*

Whereas, There being located a private alley in the village of Westfield, N. Y., directly in the rear of the main business block, running parallel with Main street from North Portage street to Market street, a distance of about thirty rods, and including Union street.

Whereas, The said alley is in a bad, filthy and unhealthy condition; and,

Whereas, The said alley is entirely without the jurisdiction and control of the board of trustees of said village, as such; and

Whereas, The local board of health declines, neglects refuses to take any action in regard thereto, although complain have been repeatedly made to such board of the filthy a unhealthful condition of the same.

Now, therefore, We, the undersigned citizens of the village Westfield, N. Y., respectfully ask that the State Board Health take immediate action in the matter, by sending a repr sentative of said Board to make an investigation of the sam to the end that the good health and sanitary condition of o citizens and village may be protected against this nuisance a disease breeder.

Dated WESTFIELD, N. Y., *August* 14, 1893.

A. BURNS.
G. W. HATHAWAY.
W. S. WARD.
W. U. BALDWIN.
JOHN LEGGETT.
WM. L. MINTON.
WALDO L. MINTON.
F. C. STRITZINGER.
WM. COVEY.
C. I. SIMMONDS.
FRED WILKEN.
D. F. RAYER.
A. M. CULVER.
JAMES TAYLOR.
F. P. CULVER.
R. D. POWERS.
M. A. BURROUGHS.
W. T. PITTS.
L. W. GREEN.
J. W. RICKENBRODE.
C. C. HILL.
STURGIS & SMITH,
J. H. KINNEY.
G. H. PEYLAR.

A. E. PEINE.
GEORGE BILSBARROW.
E. ROOD, M. D.
C. T. HOMEWOOD.
O. J. MARSH.
A. B. HOUGH.
F. T. MOSES.
JEROME LA DUE.
W. A. USBOME.
THEO. BURNS.
H. C. JONES.
F. W. CRANDALL.
W. H. THOMPSON.
E. LEFFINGWELL,
J. G. FINLAY.
GEO. T. JEWETT.
C. A. BABCOCK.
D. K. FAHAY.
H. D. THOMPSON.
F. C. PAGE.
BURT BENTLEY.
C. T. FALLETT.
JAS. B. LLOYD.
I. E. JONES.
M. R. DOUGLAS.
FRANK WIMPELMAN.
M. A. LYON.
F. B. LAMB.
J. N. WOLFE.
E. S. ROYCE.
H. W. THOMPSON.
C. E. BROWN.
H. J. HAASE.
J. M. BROWN, M. D.
J. D. DAVIS, M. D.
BEN. BOULT.

## WESTFIELD.

Drs. Rood and Putnam are health officers. The board of health hold no regular meetings, and inspections are made only after complaints.

Sewerage.— There is no system of sewerage, although there are some surface sewers. The drainage is quite good generally.

Water supply.— This supply is from a reservoir on Westfield creek.

Garbage.— This is disposed of by the people, but no one seems to know where it is taken.

General sanitary condition.— As there is no regular system of inspection, the sanitary condition is not good.

Hospitals.— There are no hospitals, and no arrangements for the isolation of contagious diseases.

Depots.—The depot used by the Lake Shore and Nickel Plate roads is in good sanitary condition.

Remarks and advice.— My attention was at once called to the condition of an alley, in the rear of the business places on Main street, between the stores and the barns, storehouses, etc., in their rear. In some portions this alley is paved, in others it is either not paved or the paving has been broken up. It is flushed, usually, once a day, in the evening, and the refuse is washed out into the gutter on Main street, and constitutes an actual nuisance and just cause of complaint. A thorough investigation was made of the premises. The president and the secretary of the board of health and the health officer accompanied me. I send enclosed a petition from the citizens of Westfield, in regard to it, and a list of the business places on the alley. The most obnoxious place is in the rear of Morganstein's meat market, an old building, rotting with filth, and used for a pigpen, horse barn and slaughter-house. Fowls are kept, killed and dressed there, and the washings, without any attempt at disinfection, flow through the floor or out into the alley. Below this place the pavement is broken up, and little ponds of the refuse remain there to poison the air. One place was found in which three persons live, upstairs, with no privy accommodations whatever, their slops being thrown in the alley or between

the buildings. On the whole, it constitutes the filthiest place, unisolated, that I have yet inspected. I advised, for the present, a liberal use of disinfectants; that receptacles for garbage be supplied, to be emptied daily; and that measures be taken at once for the removal of the old buildings in rear of Morganstien's meat market, as, in my opinion, nothing short of that will abate the nuisance. I also advised that there be a thorough, systematic inspection of the entire village; that a scavenger be employed; and that the work of cleaning up be begun at once.

A notice from the secretary of the State Board of Health would make it easier for the local board to do what is necessary, and they would be pleased to receive such notice.

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## BROCTON.

An unincorporated village in the town of Portland, Chautauqua county. It was visited on account of its railroads, of which there are three — the Lake Shore, the Nickel Plate and Western New York and Pennsylvania. Dr. H. C. Taylor is the health officer.

Sewerage.— There are no sewers.

Water supply.— The village has no water-works.

General sanitary condition.— It is a clean, well-kept, healthy hamlet.

Placards and quarantine.— Placards are used and quarantine is enforced.

Hospitals.— There is no hospital at present, but a site near the depot has been selected for one.

Depots.— One depot is used by all the roads. It is in good sanitary condition.

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## CANISTEO.

The health officer is Dr. F. L. Sutton. He does his own inspecting.

Sewerage.—There is no system of sewerage, but there are a few private sewers which empty into the Canisteo river below the city.

The privies are cleaned every summer by a company employed under the direction of the board of health.

Water supply.— The place has an excellent water supply from a reservoir, supplied by springs, and situated about two miles out of town.

Garbage.— This is taken out by swill men and rubbish is dumped in low places by the householders.

General santiary condition.— Scarlet fever and diphtheria prevail to some extent; otherwise the sanitary condition is good.

Placards and quarantine.— Placards are used and the quarantine is attended to by the board of health.

Depots.— The Erie depot is new, clean and owns a private sewer. It is also connected with the village water-works.

Advice.— I advised that the board compel the filling up of a pond of nearly stagnant water on the premises of Ira Hull, which is clearly a nuisance.

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## MAYVILLE.

This village is the county seat of Chautauqua county. Dr. William Pendergrast is health officer.

Sewerage.—There are a few private sewers which open into the creek. The village is on a steep side hill and the surface drainage is good.

Water supply.— This supply is from ten artesian wells near the lake. The water is pumped into a stand pipe and flows through the village.

Garbage.— The garbage is disposed of by the householders. The general sanitary condition is good. There is no sickness in the village at present.

Placards and quarantine.— Placards are used and quarantine is maintained when necessary.

Hospitals, etc.— The village has no hospital. Ten years ago one case of small-pox occurred in the village. The house in which it occurred was quarantined and disinfected and no other cases followed.

Depots.— The railroad depot and steamboat landings are in very good sanitary condition.

## FREDONIA.

Dr. Nelson G. Richmond is health officer. A thorough inspec-
n is made once a year.

Sewerage.—The village has a few sewers, which unite with
e State sewer from the Normal school, and empty into the
nadaway creek, below the village. Most of the privies are
pplied with drawers, and are cleaned out at least once a year.

Water supply.—The water supply is from a pond in Canada-
ay creek, about three (3) miles above the village. The water
very good, the dam having been cleaned last spring.

Garbage.—The garbage is taken away by the people them-
lves, and by swill-gatherers, who take it outside the village
undaries.

The general sanitary condition is very good.

Placards and quarantine.—Placards are used in cases of
fectious diseases, and the quarantine is quite strict. Laborers
some instances get pay from the authorities when compelled
stay at home.

Hospitals.—There is no hospital, but the health officer was
re he could, in a short time, make arrangements to isolate
tients, if necessary.

Depots.—The railroad depot is in good sanitary condition.

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## DUNKIRK.

Isaac W. Pond is health officer.

The board of health is organized under the charter of Dun-
k, passed in 1885, and is composed of the mayor, a physician,
d the health officer, the last being appointed by the common
uncil. The present board has never had a meeting.

The board of the town has recently organized. The same
alth officer acts for both boards. Both supervisors live in the
y.

Sewerage.—The sewerage of Dunkirk, of which there is about
(10) miles, is excellent, except in the northeastern part,

called Polandville. Here the soil, over the rocks, is too t
to make sewering easy.

Water supply.— The water supply is at present pumped fr
the bay, and is frequently roily, but the pipes are being laid
hundred (600) feet out in the lake, and the water obtained
be much clearer.

Garbage.— The garbage is disposed of by householders, sw
gatherers and farmers, except that the offal from three establ
ments, where quantities of fish are cleaned, is drawn out o
farm and plowed under. When this is not done it is taken
and thrown into the lake.

The general sanitary condition is good, except for a cr
called Goose creek, which extends from Deer street to the L
Shore railroad. This is really an open sewer and is a nuis
which should be abated.

Diphtheria prevails to quite an extent, and there is a lac
supervision and quarantine that encourages its propaga
Public funerals are held in some instances, and disinfectin
attended to by undertakers, if at all.

Placards and quarantine.— Placards are sometimes used,
are frequently torn down and destroyed by the occupant
houses placarded. Quarantine is not enforced.

Hospitals.— The city has no hospital, and no pest-house.

Steamboat, docks and railroad stations.— The steamb
docks are used only for landing and storing lumber and
depots for receiving, cleaning and shipping fish. They are fa
clean. The Erie depot and hotel are in one building.
privies at the depot are dirty and offensive, although they
connected with a sewer and, it is claimed, washed out ev
day. The building is supplied with water from "Gerrin's Pon
located in the upper part of the city. This depot is used by
Erie, the Lake Shore and Michigan Southern, and the D., A. V
P. railroads. The depot of the Western New York and Pe
sylvania is in good order.

Advice.— Advised that the city board organize under
law of 1893 and pay more attention to quarantining the ca
of diphtheria and scarlet fever, and also that they comply w

the law in regard to the registration of vital statistics. That a close sewer be made in Goose creek.

Remarks.— In my opinion the mayor is willing and anxious to comply with the law and do what he can to improve the sanitary condition of the city, and will do so as soon as he is definitely informed by which act he should be governed. I have written the Attorney-General for advice.

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## CHAUTAUQUA ASSEMBLY GROUNDS.

This is a summer village at times containing eight thousand (8,000) or ten thousand (10,000) inhabitants.

Dr. W. A. Duncan is superintendent.

Sewerage.— The place is well sewered and the surface drainage is good. The sewage is run into vats, disinfected, the water pressed out quite pure, and the solid residue pressed into bricks and drawn away.

Water supply.— The water for this place is drawn from Chautauqua lake and is very good. The pipes extend six hundred (600) feet out, in deep water.

Garbage.— This is thrown into barrels and removed daily.

The general sanitary condition is very good indeed.

Depots.— The railroad depot and steamboat landing are in very good sanitary condition.

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## OLEAN CITY.

Dr. W. H. Sage is health officer. He is assisted by a very efficient board of health composed of the best men of the city. The board has been sued for damages by Dr. Whitney for preventing interments in the old cemetery. There is an inspector to assist the health officer and the work is very well done.

Sewerage.— The town is well sewered, but where sewer connections do not exist night soil is deodorized and taken out on farms.

Water supply.— The water supply is from wells near the river supplemented by water from the river. A new well is being dug

but the water seems to be practically river water. Some three or four hundred (300 or 400) yards above the source of the water supply is situated Meyer Bros. slaughter-house, the refuse from which putrefies in a swamp. Above this on the other side are Dean & Co.'s glue factory and Quarin's tannery also sources of filth and impure air. These discharges must affect the water supplied to the city.

Garbage.— The dumping ground for garbage and rubbish, which is carried away by swill men, etc., is in the town outside of the city. The town board of health objects to this manner of disposal. A large part of the garbage is at present burned and the same plan should be followed with the remainder.

General sanitary condition.— As to cleanliness the sanitary condition is very good. As to contagious diseases it is not so good, there having been forty (40) cases and six (6) deaths from scarlet fever since April first and two cases of typhoid fever reported on the eleventh.

Placards and quarantine.— Placards are used and disinfecting is attended to by the health officer.

Hospitals.— An isolated place on Fourth street on the river has been selected for a hospital.

Depots.— The depot of the Buffalo, New York and Pennsylvania railroad is in good order.

Remarks and advice.—Olean creek, the source of the ice supply, is in bad condition, as is also the Fourth street sewer which ends too near the shore. I advised the board of health to extend this sewer farther out into the river, to obtain the water supply above the source of infection, also to stand by their decision in regard to interments in the old cemetery.

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## OLEAN, TOWN.

Dr. W. C. Dallanbough is health officer. His charge is important to the city, as the town outside the city has a population about one-third as great as the city proper. The glue works, tanneries and slaughter-house are outside the city.

Water supply.— The water supply is from wells.

Placards and quarantine.— Placards are used and quarantine is exacted.

Depots.— The Erie depot is an old building. The privy vault was cleaned last spring but probably never before. This depot would be the one, if any, that would need supervision, in case cholera invaded this section.

Remarks and advice.— The refuse from the tanneries of Wright and Clark soaks through low swampy ground and although disinfectants are used to some extent there can be no doubt that the river and the city water are affected by it.

I advised that the tanneries and the glue factory unite in building a sewer and carry the sewage down the river.

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## RIPLEY.

This is an unincorporated village in the town of Ripley and has a wide-awake board of health. Dr. S. Macnee is health officer.

Sewerage.— There is no system of sewerage.

Water supply.— There are no water-works.

Garbage.— This is removed by the householders.

General sanitary condition.— There is little sickness and the village is in good sanitary condition.

Placards and quarantine.— Placards are used and the quarantine of contagious diseases is enforced.

Depots.— There are two railroad depots and both are in good sanitary condition.

Remarks.— This station and "State Line" in the town of Ripley are the last stations on the Lake Shore and Nickel Plate railroads. They bring in large numbers of passengers from the west and might be the means of bringing infectious diseases into the State from that direction. It was reported that the health authorities of Pennsylvania had established a quarantine station, against New York, at State Line, but the report could not be verified. The board of health can establish one near Ripley on short notice.

## SILVER CREEK.

Dr. J. J. Sharp is health officer.

Sewerage.— Two hotels and a factory have private sewers which empty into Butternut creek. One sewer from several private houses empties into an open drain in the village. There is good natural drainage for surface water.

Water supply.— This supply is from wells, except the few houses supplied by the pumps at the factory.

Garbage.— This is taken away by the people and farmers.

General sanitary condition.— The village is in fairly good sanitary condition.

Placards and quarantine.— Placards are used and the quarantine is quite perfect.

Depots.— The depot of the Lake Shore railroad is in good sanitary condition; that of the New York, Chicago and St. Louis is not clean, the privies being in bad sanitary condition.

Advice.— I advised the cleaning of the latter-named depot, and that privy connections be cut off from the sewer which runs into the open drain, or that the sewer be completed.

Hospitals.— There is no hospital, but the board of health is composed of energetic men, who could provide a place for the isolation of patients if it becomes necessary.

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## LILY DALE.

The place is a summer village, situated on Cassadaga lakes. It is occupied by an association of spiritualists. Sometimes as many as 3,000 pass the summer in this village. Mr. Skidmore is superintendent.

Sewerage.— The place is well sewered and drains into cesspools, which are cleaned every year.

Water supply.— The water supply is from driven wells and from a reservoir supplied by the lake. The water from the latter source is used for washing purposes, in sinks and water closets; is not generally used for drinking.

bage.— The garbage is gathered by a regular scavenger.
re has never been any sickness in the place.
inspection was made on account of a report that the
used came from a little lake into which the place was
ed.

R. P. BUSH,
*Inspector Fourth Sanitary Division.*
COMMENCING *August* 1.

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## COBLESKILL.

gust 3. No health board.
sident of village assured inspector that a health board
be appointed at next meeting of board of trustees, to be
n Monday, August seventh.
sident of village, D. C. Daw.
new sewage system recently completed and accepted by
e.
ter supply from reservoir, which is fed by springs.
bage collected by farmers of surrounding country.
neral sanitary condition of village good. Streets in excel-
ondition; yards pretty free from decomposing matter of any

nses where contagious diseases exist sufficiently quaran-
and placarded.
e for building in case of epidemic selected by president of
e.
sets at Delaware and Hudson station in bad sanitary con-
n; require a thorough cleaning.
e following suggestion was made by the inspector, upon
st of president of village:
nasmuch as a sewage system has been recently accepted by
illage, he would recommend the immediate passage of an
ance, prohibiting the building of new vaults, or the
cing of old vaults by new ones on the line of the sewer,
urthermore, compelling such builders to make connections
the line of sewers.

## TOWN OF COBLESKILL, SCHOHARIE COUNTY.

August 3. Dr. Peter A. Allen health officer.

Water supply mostly from driven wells.

Garbage used as a fertilizer.

General sanitary condition good. Vaults in good condition.

Houses placarded and quarantined where contagious diseas exist.

Numerous sites where a house could be erected in case epidemic.

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## RICHMONDVILLE.

August 4. Dr. N. Smith health officer.

Water supply from driven wells.

Garbage disposed of by surrounding farmers mostly.

General sanitary condition good. Streets in good conditi Yearly cleaning of vaults advised; also that the local offi make this compulsory.

Houses where contagious diseases exist quarantined, but placarded. The placarding of same advised by inspector.

Site for building of house in case of necessity selected local board.

Vaults at Delaware and Hudson station in fair sanitary c dition.

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## SCHOHARIE.

August 4. Dr. H. F. Kingsley health officer.

Water supply from driven wells.

Garbage used mostly as a fertilizer by surrounding farme

General sanitary condition fair. Vaults all cleaned in spri of 1893. Odor from same noticeable in streets of village in evening. Free and frequent use of lime advised. Streets good condition.

Houses where contagious diseases exist quarantined. Placi ing of same advised by inspector.

Numerous sites for building of house in case of epidemic, with necessary facilities.

No vault at Schoharie Court-house station. Outhouse stands on ground.

Vault at Schoharie Junction in fair condition.

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## TOWN OF SCHOHARIE, SCHOHARIE COUNTY.

August 4. Dr. H. F. Kingsley health officer.

Village of Central Bridge in this township.

Water supply from driven wells.

Garbage used as a fertilizer.

General sanitary condition good. Vaults of Central Bridge cleaned in spring of '93.

Houses where contagious diseases exist quarantined. Plarding of same advised.

Numerous sites for building of house in case of epidemic.

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## MIDDLEBURGH.

August 5. Dr. John Rossman health officer.

Water supply from driven and surface wells.

Garbage buried and used as fertilizer.

General sanitary condition fair. Streets in fair condition of cleanliness. Two slaughter-houses within the corporation limits furnish cause for much complaint. Measures for the removal of same from village advised. Most of the vaults cleaned during spring. The yearly cleaning of same advised.

Houses where contagious diseases exist quarantined. Plarding of same advised.

Site selected by local officer for building of emergency hospital.

Vaults at Schoharie Valley station in bad condition. A thorough cleaning necessary.

## TOWN OF MIDDLEBURGH, SCHOHARIE COUNTY.

August 5. Dr. John Rossman health officer.

Village of Hunters Land in this township.

Water supply from driven and surface wells.

Garbage used as fertilizer.

General sanitary condition good. Vaults cleaned du spring of '93.

Houses having contagious diseases quarantined. Placar of same advised.

A number of locations for building of emergency hospit necessary.

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## CANASTOTA.

August 7. Dr. William Taylor health officer.

Water supply from reservoir supplied by springs and s watershed. Some surface wells.

Several private drains open into creek running through vil A large public drain has been left incomplete, it being partially tiled. About one-quarter of a mile of this drai open and is a foul-smelling ditch and exceedingly unhea The immediate continuation of this tiling advised, but the p dent and trustees of village desire the local board to act a written order from the State Board before proceeding the work.

Garbage collected mostly by surrounding farmers; s thrown into creek. This advised stopped.

General sanitary condition of village fair. Business str fairly clean. Residence streets very clean.

Houses having contagious diseases quarantined placarded.

House selected by local officer to be used in case of epider

Closets in New York Central station in good sanitary conditi

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## TOWN OF LENOX, MADISON COUNTY.

August 7. Dr. J. W. Knapp health officer.

Water supply from surface wells.

Garbage used as fertilizer and feed for stock.

General sanitary condition of town good. A general and thorough cleaning throughout town recently ordered by town health officer.

Houses where contagious diseases exist quarantined and placarded.

Numerous sites in view where emergency hospital could be erected if necessary.

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## CHITTENANGO.

August 8. Dr. S. Eaton health officer.

Water supply from driven and surface wells.

Garbage mostly collected by surrounding farmers.

General sanitary condition of village excellent.

Houses having contagious diseases quarantined and placarded.

House for isolation of patients in case of epidemic in readiness.

Vault at West Shore station in excellent sanitary condition; new. Vaults at New York Central station in bad sanitary condition; require a thorough cleaning and disinfection.

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## TOWN OF SULLIVAN, MADISON COUNTY.

August 8. Dr. S. D. Hanchett health officer.

Water supply from driven and surface wells.

Garbage used mostly as fertilizer.

Houses having contagious diseases quarantined and placarded.

Numerous sites in view where patients could be completely isolated if necessary.

General sanitary condition of town good.

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## CAZENOVIA.

August 8. Dr. M. R. Jay health officer.

Water pumped from springs into mains of village.

Numerous private drains running into creek running through village. A sewage system is here necessary.

Garbage carted out of village and used as fertilizer.

General sanitary condition of village good. Streets in excellent condition.

Houses where contagious diseases exist quarantined and placarded.

Site located for erection of emergency hospital, if necessary.

Vault in Elmira, Cortland and Northern station in bad sanitary condition; a thorough cleaning and disinfection necessary.

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## TOWN OF CAZENOVIA, MADISON COUNTY.

August 8. Dr. S. E. Salsbury health officer.

Water supply from springs and wells.

Garbage used as fertilizer and food for stock.

General sanitary condition of town good.

Houses where contagious diseases exist quarantined and placarded.

Numerous sites in view for building of emergency hospital, if necessary.

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## VILLAGE AND TOWN OF DE RUYTER, MADISON COUNTY.

August 9. Dr. R. W. Truman health officer.

Local health officer out of town; conferred with president of board.

Water from driven and surface wells.

Garbage used as fertilizer and food for stock.

General sanitary condition good. Streets of village clean.

Houses having contagious diseases quarantined and placarded.

House for isolation of epidemic cases situated just outside of village.

Vaults at Elmira, Cortland and Northern station require cleaning.

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## MORRISVILLE.

August 9. Dr. F. D. Babcock health officer.

Water from driven and surface wells.

Garbage mostly collected by farmers.

General sanitary condition of village fair. Streets clean. Vaults all cleaned in spring of 1893. Small minor nuisances about the village recommended abated immediately.

Houses where contagious diseases exist quarantined and placarded.

Tents on hand to erect in case of epidemic.

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## TOWN OF EATON, MADISON COUNTY.

August 9. Dr. H. P. Mead health officer.

Water from driven and surface wells.

Garbage used as fertilizer and food for cattle.

Houses having contagious diseases quarantined and placarded.

Town health officer has a house located which may be used in case of emergency.

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## HAMILTON.

August 10. Dr. G. L. Gifford health officer.

Local health officer out of town; conferred with president of board.

Water from driven and surface wells.

Garbage mostly collected by surrounding farmers.

Suggestion made in writing to local officer that the business men be compelled to put garbage in boxes instead of strewing it about the ground.

General sanitary condition of village good. Streets in excellent condition.

Houses where contagious diseases exist quarantined and placarded.

Numerous empty suitable houses upon border of village which could be utilized in case of necessity.

Vault in New York, Ontario and Western station in good sanitary condition.

VILLAGE AND TOWN OF SMYRNA, CHENANGO COUN

August 10. Dr. T. G. Parker health officer.

Water from surface wells.

Garbage mostly collected in village by surrounding farm

General sanitary condition of village fair; that of town g Several open drains in village recommended tiled immediat In their present condition they are nuisances and should cared for.

Houses where contagious diseases exist quarantined placarded.

House provided by local officer to be used in case of neces which would accommodate twelve patients.

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NORWICH.

August 10. R. A. Thompson, M. D., health officer.

Water from reservoir supplied by watershed.

At present time a sewage system is being laid by village.

Garbage thrown about village promiscuously. The neces of a system of collection strongly put forth and one advised.

General sanitary condition of village fair. Streets in g condition. Vaults only cleaned when complaint is made.

Houses having contagious diseases quarantined and placard

House provided by local officer to accommodate ten patie in case of necessity.

Closets in New York, Ogdensburg and Watertown station good sanitary condition. A deodorizer would improve.

Vaults in Delaware, Lackawanna and Western station in fa sanitary condition. A disinfectant is here necessary.

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TOWN OF NORWICH, CHENANGO COUNTY.

August 10. Dr. S. M. Hand health officer.

Water from driven wells mostly.

Garbage used mostly as fertilizer and food for stock.

Houses having contagious diseases quarantined and placarded

alth officer has received no communication from State
d concerning selection of "emergency hospital" or site for
. Such a communication desired by local officer that town
l may act.

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## ONEONTA.

gust 16. Dr. O. W. Peck health officer.
e sewage matter is here disposed of by a sewage system
h is irregularly and imperfectly flushed.
ater supply from Oneonta creek which supplies reservoirs.
regular system of garbage disposal. A dumping ground
y provided by village and individuals of village requested
ist garbage there. Alleys, gutters of streets, streets, and
: running through town strewn with garbage, papers, ashes,

e general sanitary condition of village is poor. Vaults only
ied upon complaint.
ouses where contagious diseases exist quarantined and are
irded only when thought necessary by local officer. Some
of diphtheria in village at present.
e located whereupon a house could be erected in case of
gency.
osets in Delaware and Hudson station in good sanitary con-
n; recently put in.
e inspector advised improvements in some of the above
ers and the local officer stated that the financial situation in
illage and town would not permit it.
ie garbage question here should be agitated and definite
on taken towards proper collection and disposal.

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## UNADILLA.

ugust 17. Dr. J. J. Sweet health officer.
ere are here numerous private sewers opening into the Sus-
anna river.
ater supply from reservoir fed by springs.

Garbage mostly carted away by farmers.

General sanitary condition, good. Streets clean. Vaults few and in fair condition.

Houses where contagious diseases exist quarantined and placarded.

House in view which could be used as an emergency hospital.

No recent contagious diseases in village.

Vault at Delaware and Hudson station in filthy condition and requires a thorough cleaning or a new vault.

The local officer desires the State department to instruct the local board to enforce the law requiring the doctors of the village to report to local officer or board all contagious diseases.

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## TOWN OF UNADILLA, OTSEGO COUNTY.

August 17. Dr. Joseph Sweet health officer.

Water supply from springs and surface wells.

Garbage used as food for stock.

General sanitary condition good.

Houses where contagious diseases exist quarantined and placarded.

Numerous sites where emergency hospital could be erected.

No recent contagious diseases in town.

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## SYDNEY.

August 17. Dr. E. J. Isham health officer.

A sewage system is being put in at present time.

Cesspools almost entirely used for drainage purposes.

Water supply from reservoir supplied by springs.

Garbage mostly carted away by farmers. A weekly collection of garbage from rear of business places during summer months advised by inspector.

General sanitary condition at present fair. Vaults are mostly in good condition. There is a nuisance here which in some way should be abated. It is known as the "cove" and is a large

stagnant, foul-smelling body of water, receiving the drainage of neighboring houses and a creamery. Ice harvested from this pond. This advised prohibited, except for cold storage purposes. The constant drainage of this hole is a necessity and the local board is about to take measures with that end in view. Some minor nuisances recommended abated.

Houses having contagious diseases quarantined and placarded.

Site in view for erection of emergency hospital.

No recent contagious diseases in village.

Vaults at joint station of Delaware and Hudson and New York, Ontario and Western railroads in bad sanitary condition. Should be removed. The passenger traffic here is large and closets or a new large vault should be constructed to accommodate it. The present vault is wholly unfit and inadequate.

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## TOWN OF SYDNEY, DELAWARE COUNTY.

August 17. Dr. J. V. E. Winnie health officer.

Water from surface wells.

Garbage used mostly as food for stock.

General sanitary condition of town good. Vaults in good condition.

Houses where contagious diseases exist placarded and quarantined.

Numerous vacant isolated houses obtainable in case of emergency.

No recent contagious diseases.

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## TOWN OF ROSENDALE, ULSTER COUNTY.

August 25. Dr. P. Hayden health officer.

Water from surface wells and springs.

Garbage is mostly fed to stock.

General sanitary condition of town is very bad. The draining of a swamp artifically produced strongly advised. Numerous filthy pig-pens about the town in close proximity to houses.

Houses containing contagious diseases are not quarantined or placarded.

Numerous sites whereupon an emergency hospital could be built in case of necessity.

At present there is a slight epidemic of scarlet fever on the border of the swamp of the Lawrence and Rosendale cement companies.

Strict quarantining and placarding of houses advised.

There is a lack of regulation and enforcement of the sanitary rules of town.

Vaults at Wallkill Valley station in fair sanitary condition.

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## VILLAGE AND TOWN OF NEW PALTZ.

August 25. Dr. E. J. Palmer health officer.

Water supply in town from surface wells and springs.

Water system recently put in in village, and water is piped from reservoir in mountains, fed by springs.

Garbage collected by farmers.

General sanitary condition good.

Houses having contagious diseases placarded and quarantined.

Numerous locations for erection of emergency hospital if necessary.

No recent contagious diseases.

Vaults at Wallkill Valley station require cleaning.

H. SEYMOUR PEARSE,
*Inspector.*

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THERESA, *October* 1, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N.Y.:*

Dear Sir.—Having visited and inspected Glens Falls; population, 9,000 or 10,000; Dr. Lemon Thomson health officer. Are constructing a good system of sewerage. Brick main, tile and trapped. Syphon for taking surface water. Approved by the State Board. Emptying into a rock pit, thence into the Hudson river by percolation.

Water supply from the mountain brooks, five miles out, with
o storage reservoirs, three miles out. One supply reservoir,
e and one-fourth miles out. A new storage reservoir, by
mming a beaver meadow, which causes pollution from vege-
ble decay.

Garbage thoroughly cared for by individuals. General con-
ion good.

Houses with contagious diseases, back door placarded. Health
lcer retaining keys to all other doors until recovery or death
d premises properly fumigated. Family quarantined, either in
out of house.

Have located grounds, with the idea of using tents in case
contagious diseases.

No recent outbreak of contagious diseases.

Railroad depot in good sanitary condition.

Advised the cleaning of a cesspool that was percolating into
e cellar of bakery on property of one of the wealthy residents
d the disconnecting of a water-closet and sink in the
kery. The board met and declared the same a nuisance by
nanimous resolution, causing to be removed by the owner 200
gar barrels full of solid matter, after all the fluids, and have
d the water-closet and sink disconnected.

The above has been done, as I am informed by letter from
e health officer, who is one of the most efficient officers in my
ision.

I also advised drawing off the water from the beaver meadow
ervoir and removing vegetable matter, and then graveling
bottom, or using a Hyatt filter before using the water for
nking or culinary purposes.

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## PORT HENRY.

Having visited and inspected Port Henry; population, 2,500;
. A. C. Grover health officer, report:

Sewerage mostly surface; small amount of tile sewerage;
pties into Lake Champlain.

Privies cleaned every week with instructions to bury contents,
not generally done.

Water supply.— Gravity system from two mountain spri with two reservoirs; one-half the inhabitants use the water.

Garbage fed, burned or buried.

Sanitary condition fairly good.

Houses with contagious diseases placarded and quarantine

No arrangement for the isolation of patients with infectio diseases.

Had forty cases of diphtheria from June, 1892, to June, 18

Railroad depot in good sanitary condition.

Advised central road sewer, which now empties on surface, be extended under railroad carrying sewage in iron pipes emp ing into the lake.

Advised rebuilding a faulty sewer on North Main street Mill brook, and having all residents to use corporation water f drinking and culinary purposes, as, in my judgment, the dip theria was largely caused by drinking water that was unwho some and unfit for potable purposes.

## PAMELIA.

Having visited and inspected Pamelia; Dr. E. E. Ward healt officer, report:

No sewerage.

Natural drainage.

Water supply from wells and springs (usually good).

Nothing done with garbage.

General sanitary condition good.

Houses with contagious diseases placarded and quarantined.

No arrangement for the isolation of patients with infectious diseases.

Have had isolated cases of diphtheria which undoubtedly originated from damp cellars and slop drains; by putting the immediate surroundings in sanitary condition the disease did not spread.

Advised better drainage from cellars and tiling and carryin away kitchen slops, etc.

## CLINTON.

Having visited and inspected Clinton; Dr. H. R. Hughes health
ficer, report:
No system of sewerage at present, but have a system approved
the State Board which will be constructed in the spring of
1.
rivies cleaned and contents burned or carted into the country.
Water supply from spring three and one-half miles out;
rity system. Some well water used but not good.
arbage carted away; not thoroughly looked after.
eneral sanitary condition very good.
ouses with contagious diseases not placarded.
o arrangement for the isolation of patients with infectious
ases.
nion free school buildings in good sanitary condition.
he old canal is now owned by the town and is made the
ptacle of the sewage from the hotel water-closets and slop
ins besides a large amount of garbage which makes it verily
open cesspool, and I so advised them.

---

## NEWPORT.

Having visited and inspected Newport, Herkimer county; Dr.
C. Dexter health officer, report:
Good natural drainage.
A few of the inhabitants look after the privies, etc., but a
ger proportion pay no attention to it.
Water supply.— Gravity system from spring one and one-half
es out (good).
No attention paid to garbage.
General sanitary condition very good.
Houses with scarlet fever and diphtheria placarded and quar-
ined; not so with measles.
o arrangements for the isolation of patients with contagious
ases.

No recent outbreak of infectious diseases.

Railroad depot in good sanitary condition.

The register of vital statistics complains that they do not generally report marriages, deaths and births. The priest refusing to report any.

Advise them to have reports made; to take care of the garbage and to placard in case of all infectious diseases.

---

## SPRING COVE AND ST. REGIS FALLS.

Having visited and inspected Spring Cove and St. Regis Falls Dr. Atwater health officer, report:

No system of sewerage.

No attention paid to sewage.

Water supply from wells and springs (good).

Garbage burned.

General sanitary condition good.

Houses with contagious diseases placarded and quarantined.

No arrangement for the isolation of patients with infectious diseases, but can use houses, as there are plenty of empty houses that can be used, if necessary.

No recent outbreak of contagious diseases.

Health officer says he has been in correspondence with Dr. Balch, and is getting the place in good sanitary shape.

---

## BRANDON AND SANTA CLARA.

Having visited and inspected Brandon and Santa Clara; Dr. Blake Bigelow health officer, report:

No system of sewerage.

Water supply from drilled and piped wells (good).

Garbage burned.

General sanitary condition good.

Houses with contagious diseases placarded and quarantined and fumigated after recovery or death.

No recent outbreak of contagious diseases.

## MOIRA AND BRUSHTON, TOWN OF MOIRA.

Having visited and inspected the villages of Moira and Brush-
n (town of Moira); Dr. E. A. Rust health officer of Moira, and
. L. E. Hawkins health officer of Brushton.
No system of sewerage.
rivies are cleaned.
Water supply from wells.
arbage is taken care of by families.
eneral sanitary condition good.
ouses with infectious diseases not placarded or quarantined.
o arrangements for the isolation of patients with contagious
ases.
o recent outbreak of infectious diseases.
dvised placarding and quarantining houses with contagious
eases and was assured that the advice would be followed.
My interview was with the town clerk, the health officer
ing away.

---

## SARATOGA, TOWN.

Having visited and inspected Saratoga (town); M. F. McGrath
lth officer.
No sewerage.
Water supply from wells.
Garbage looked after by individuals.
Heneral sanitary condition good,
Houses with infectious diseases quarantined by family in and
ghbors out.
Will use pest-house in contagious diseases if necessary.
No recent outbreaks of infectious diseases.
No requests made or advice given except in a general way.

---

## LISBON, ST. LAWRENCE COUNTY.

Having visited and inspected Lisbon, St. Lawrence county;
pulation, 3,000; Dr. Morris Beckstead, Lisbon Center, health

No system of sewerage.

Privies are cleaned occasionally.

Water supply from wells (good).

Garbage is carted away to the country.

General sanitary condition fairly good at present.

Houses with contagious diseases not placarded or quarantined.

Have had recent outbreak of scarlet fever with public funerals.

I have received several complaints regarding this place previous to my visit.

The health officer plead ignorance of sanitary laws but promised that he would follow my advice and that there would be no complaints from Lisbon in the future. Advised him to send for Dr. Balch's sanitary manual and post himself, which he said he would do.

---

## SOUTH GLENS FALLS.

Having visited and inspected South Glens Falls; Dr. J. Seward White health officer.

Sewerage.—None. Natural drainage into river.

Water supply.—Dug wells and cisterns.

Nothing done with privy vaults. Cleaned at the pleasure of owners or tenants.

Garbage partially carted away by farmers.

General sanitary condition fairly good.

Houses with contagious diseases sometimes placarded and partially quarantined.

Nothing done for the isolation of patients with infectious diseases, but may possibly use tents, if necessary.

No recent outbreak of contagious diseases.

Advised that they be more thorough in their work pertaining to health matters and get their town in a better sanitary condition.

---

## HARRISVILLE.

Having visited and inspected Harrisville; population, 1,0[illegible] (town of Diana); Dr. L. U. Hulburt health officer, report:

No sewerage system.

Water supply from wells and springs.

Each family cares for their own garbage.

General sanitary condition good.

In cases of houses with infectious diseases nothing is done.

No arrangement for the isolation of patients with contagious diseases.

No recent outbreak of infectious diseases.

Aside from the health officer the health board is no good, giving the health officer no backing and paying sanitary affairs no attention whatever.

Have had diphtheria badly, and will doubtless have more of it unless something is done, and I so advised them.

---

## WEST CARTHAGE.

Having visited and inspected West Carthage; population, 1,500; Dr. Chas. J. Hull health officer, report:

No sewerage. Sewage not looked after much without complaint.

Water supply from wells (good).

Garbage.— No attention paid to it.

General sanitary condition fairly good.

Houses with infectious diseases are thoroughly looked after.

No arrangements for the isolation of patients with contagious diseases.

No recent outbreak of contagious diseases.

Advised that more attention be paid to the care of sewage and garbage, and a more general care for the sanitary condition of the place.

---

## KEESEVILLE.

Having visited and inspected Keeseville; population, 3,000; Dr. K. J. Severance health officer.

Sewer tiled and trapped, owned by private parties, empties to Ausable river.

Water supply from Ausable river (naturally good).

Garbage burned, buried or dumped into the river.

General sanitary condition fairly good.

Houses with contagious diseases placarded and quarantined.

No arrangement for the isolation of patients with infectious diseases.

No recent outbreak of contagious diseases. The water used for drinking and culinary purposes is taken from a pond, where there are several sewers emptying only a few rods above.

I advise taking the water from above the sewers.

---

## LAKE GEORGE, TOWN OF CALDWELL.

Having visited and inspected Lake George (town of Caldwell), local board without health officer.

No system of sewerage; very good natural drainage.

Outhouses and privies cleaned in the winter only.

Water supply from the mountains; gravity system (good).

Nothing done with garbage except from hotels, which is carted away and fed to hogs.

General sanitary condition is good.

Houses with contagious diseases placarded.

No arrangements made for the isolation of patients with contagious diseases.

Railroad depot in good sanitary condition.

Advised appointing a physician as health officer and looking more closely after their sanitary regulations.

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## WARRENSBURGH.

Having visited and inspected Warrensburgh; population 1,200; Dr. W. D. Aldrich health officer, who was away from home, Dr. D. B. Howard, ex officio:

No system of sewerage.

The contents of privies buried.

Good water from the mountains; gravity system.

Garbage carted away and burned.
General sanitary condition fairly good.
House with contagious diseases placarded and quarantined.
No arrangements for isolation of patients with contagious eases.
No recent outbreaks of infectious diseases.

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## BOLTON.

aving visited and inspected Bolton; population, 100; Dr. D. odgers health officer.
o system of sewerage.
losets from principal buildings are cleaned weekly.
ood water supply from the mountains; gravity system.
arbage carted away and fed or buried.
eneral sanitary condition good.
louses with contagious diseases placarded and quarantined.
No arrangements for the isolation of patients with infectious eases.
Two cases of scarlet fever (not spreading.)
Advised them to see that their school buildings and premises re properly cleaned before opening schools.

---

## TICONDEROGA.

Having visited and inspected Ticonderoga village; population, 00; Dr. J. H. Bailey health officer.
)ne-fourth of the village with sewerage, three-fourth natural inage, emptying into the outlet of Lake George.
Vater supply from the mountain and Lake George (good); ity system.
arbage mostly carted away.
eneral sanitary condition good.
)uses with infectious diseases placarded and efficiently antined.

Will locate grounds, if necessary, for the isolation of patient with contagious diseases.

No recent outbreak of contagious diseases.

Railroad station in good sanitary way.

Advised a more thorough system of sewerage.

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## TOWN OF TICONDEROGA.

Having visited and inspected the town of Ticonderoga; D Chas. S. McLaughlin health officer.

No system of sewerage.

Good natural drainage.

Water supply good, from Lake George and the mountains.

Garbage mostly carted away.

General sanitary condition good.

Houses with infectious diseases placarded and efficient quarantined.

Have a pest-house, with a capacity for ten patients, for t isolation of patients with contagious diseases, to be used joint by the town and village.

No recent outbreak of contagious diseases.

Advised a thorough system of sewerage on Elm, Second a Third streets.

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## ELIZABETHTOWN.

Having visited and inspected Elizabethtown (county seat Essex county); Dr. Thos. A. Wasson health officer, report:

No system of sewerage.

Privies at hotels cleaned daily and contents buried.

Water supply from mountain springs.

Garbage carted into the country.

General sanitary condition good.

Houses with contagious diseases quarantined.

No arrangements for the isolation of patients with infectious diseases.

No recent outbreak of contagious diseases.

Advised a more careful looking after garbage.

## NEW BREMEN AND CROGHAN.

Having visited and inspected New Bremen; population, 2,000; . P. H. Von Zierolshofen, health officer; Croghan; population, ); Dr. J. D. Spencer health officer, report:

No system of sewerage.

The sewage from privies is treated with lime and bichloride l burned every month.

Water supply is from springs, driven and dug wells.

Garbage is thrown in manure heaps and carted away.

Houses with infectious diseases placarded and quarantined; nigated with tar and turpentine.

In diphtheria take turpentine, oil of cinnamon and carbolic id and keep it simmering on the stove; and a solution of bichlo- de for spittoons and vessels.

General sanitary condition fairly good at present; four miles it on Balsam creek they have had, the past year, considerable phtheria from using marshy water. Advised boiling all water ed and try for a supply of better water.

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## MECHANICVILLE.

Having visited and inspected Mechanicville (town of Half oon); population, 5,000; report: Dr. Chas. W. Keefer health icer.

No system of sewerage; natural drainage.

Contents of privies carted into the country, and from public hool-houses burned.

Water supply from wells and from Plum brook; four miles it. Brook is dammed and taken directly to the main.

Garbage thrown out on the ground and left to decay.

General sanitary condition fair.

Houses with infectious diseases placarded and quarantined.

Have located ground with idea of using tents, if necessary, in e of contagious diseases.

No recent outbreak of contagious diseases.

Railroad depot not in good sanitary condition; there being a pond on the grounds which should be filled. Advised the burning or burying of garbage.

Same health officer in Stillwater and report the same.

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## WATERFORD.

Having visited and inspected Waterford; population, 5,000; Dr. A. G. Peckham health officer, report:

Sewerage.—Tile system; not trapped; flushed by hydrants; advised trapping.

Emptying into the Mohawk and Hudson rivers.

Water supply.—Pumped from the Hudson river into tank and thence directly into the mains; water very good.

Garbage thrown into alleys and carted away once per week by street commissioner.

General sanitary condition good.

Houses placarded and quarantined in scarlet fever and diphtheria.

No arrangements for the isolation of patients with infectious diseases.

A few cases of scarlet fever in May; out of village; did not spread.

Railroad depot in good sanitary condition.

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## SCHUYLERVILLE.

Having visited and inspected Schuylerville (town of Saratoga); population, 1,500; Dr. Newton C. Harris health officer, report:

No sewerage; natural drainage.

Water supply from driven wells twenty-five to 100 feet deep, very good.

Garbage carted out of corporation.

General sanitary condition good.

Houses with contagious diseases quarantined by guards, etc.

No arrangements for the isolation of patients with infectious diseases.

No recent outbreaks of contagious disease.

Railroad depot in good sanitary condition.

Advised the cleaning of the wells at the school-houses.

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## VICTORY MILLS.

Having visited and inspected Victory Mills; Dr. Frank F. Gow, health officer.

No sewerage; natural drainage good.

Water supply from wells and springs (good).

Garbage collected and carted away.

General sanitary condition good.

Houses having contagious diseases placarded and a watch stationed to prevent ingress or egress.

No arrangements for isolation of patients with infectious diseases.

No recent outbreaks of contagious diseases.

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## THERESA.

Having inspected Theresa; Dr. J. R. Sturtvant health officer of town and Dr. F. Le Santway health officer of village.

Good natural drainage, being situate on a side hill.

Individuals care for their privies and garbage.

Water supply from wells (good).

General sanitary condition first class.

Houses with infectious diseases placarded and quarantined.

No recent outbreak of contagious diseases; but will use tents or vacant houses for isolation of patients, if necessary.

Railroad depot in good sanitary condition.

The main streets of the village need sewering, and I so advise.

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## SARATOGA SPRINGS.

Having visited and inspected Saratoga Springs, I beg to report:

Dr. Wm. H. Hodgman health officer.

Sewerage, wedge-edge system (main); ventilated manholes (a good system), discharging into creek and finally into the Saratoga, three miles out.

Holley system of water-works; water taken from springs; water from one reservoir not good (see recommendations).

Garbage carted away in covered tanks to dumping grounds; from large hotels twice per day in the summer season.

General sanitary condition very good.

Houses with infectious diseases placarded and efficiently quarantined.

Have pest-house for the isolation of patients.

No recent outbreaks of contagious diseases.

Railroad depot in good sanitary condition.

Advised the use at reservoir a Hyatt's or some other equally as good filter, as the supply of water is from a good source but is pumped directly into the mains with but a crude attempt at filtration.

Also, advised the health board of the necessity of keeping an inspector constantly on duty through the heated months, and a refuse cart with horse and driver that accumulations of refuse may be quickly and effectually disposed of.

Also, the removal of some of the shade trees, as being conducive to much sickness, and Saratoga being of national importance, the local board think the above would command more attention coming through the State Board of Health.

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## BALLSTON SPA.

Having visited and inspected Ballston Spa, I beg to report: Health officer, Dr. F. A. Sherman.

Sewerage, tile and trapped; mains running through bottom of the creek.

Water supply, reservoir four miles out; gravity system.

Filter in reservoir; water good.

Garbage carted away and burned.

General sanitary condition very fair.

's with infectious diseases placarded and family
ned.
ıg done for the isolation of patients with contagious

ıtagious-disease hospital.
en cases of diphtheria, in the past year, caused by
sewerage.
ıd depot in good sanitary condition.
mendations:
Carefully relay the main sewer to grade (uniform) from
ll to the tannery.
l. Cut out all storm waters now reaching sewer except-
ı as may be determined permissible by competent
.
Prohibit, after second, the further introduction of any
ɔrm waters.
ı. Compel all surface waters allowed to enter sewers,
ɔ second, to be first received in ample and properly
catch-basins.
Direct the village to build properly-designed cesspools
nnery, for the retention of solid, insoluble matters, pecu-
ıe manufacture of leather, and which may be liable to
ıarged into sewers.
On East North street there exists one of the worst cess-
nsisting of barrels set in the ground, running over with
ne of them soaking through the cellar walls into the
ɔthers draining into the street or gutters.
verage on this street. Advise sewering and compelling
to trap the same.
h. Found several cases of vomiting from offensive odors
gnus Schwart's tallow rendering establishment, and I
nded its removal from the street.
cal board agree with me in the above recommendations
the State Board to so advise.

JAMES E. KELSEY,
*Chief Sanitary Inspector First Division.*

## REPORT OF CHIEF INSPECTOR OF SECOND DIVISION FOR MONTH OF SEPTEMBER, 1893.

| DATE AND PLACE INSPECTED. | Approximate population. | Health officer. | System of drainage. | Sewage disposal. | Water supply. |
|---|---|---|---|---|---|
| September 6, Hannibal | 600 | Dr Ed. Acker | None | None | Wells and cisterns. |
| September 11, East Syracuse | 2,500 | Dr. A W. Marsh | Partial sewerage. | Discharged into creek | From Springs water-works. |
| September 11, Manlius Station | 300 | Dr. Arthur B Rood | None | None | Wells and cisterns |
| September 11, Manlius | 1,600 | Dr. Horace Nims | None | None | Part from Springs water-works, part from wells and cisterns. |
| September 11, Fayetteville | 1,800 | Dr. N. Wilber | None | None | Water-works from springs; water very good |
| September 12, Baldwinsville | 3,000 | Dr. G. M. Wassie | None | None | Water very good |
| September 12, Van Buren, town | 4,000 | Dr. J H. Burch | None | None | Wells and cisterns. |
| September 22, Cortland | 9,000 | Dr. W. J. More | None | None | Part from water-works, water from springs, part wells and cisterns. |
| September 23, Homer | 2,000 | Dr. J W. Whitney | None | None | Wells and cisterns. |
| September 27, Ovid | 600 | Dr. John Dennison | None | None | Wells and cisterns. |
| September 28, Willard Insane Hospital | ..... | ..... | Very good | Seneca Lake | For laundry and fire Seneca lake; for drinking, Springs water-works |
| September 29, McGrawville | 1,200 | Dr. Marion R Smith | None | None | Mostly springs |
| September 29, Marion | 1,300 | Dr. C. W. Troffin | None | None | Springs and wells. |

REPORT OF CHIEF INSPECTOR OF SECOND DIVISION FOR MONTH OF SEPTEMBER, 1893 — (*Continued*).

| DATE AND PLACE INSPECTED. | Garbage disposal. | General sanitary condition. | Placards. | Quarantine. | Isolation. | Recent contagious diseases. |
|---|---|---|---|---|---|---|
| September 6, Hannibal | None | Good | Yes | Yes | Yes | None. |
| September 11, East Syracuse | None | Good | Yes | Yes | Yes | A few cases of diphtheria. |
| September 11, Manlius Station | None | Good | Yes | Yes | Yes | None. |
| September 11, Manlius | None | Good | Yes | Yes | Yes | None. |
| September 11, Fayetteville | None | Good | Yes | Yes | Yes | None. |
| September 12, Baldwinsville | None | Good | Yes | Yes | Yes | None. |
| September 12, Van Buren, town | None | Good | Yes | Yes | Yes | None. |
| September 22, Cortland | Dumped on vacant lot outside village limits | Not good on account of no sewers | Yes | Yes | Yes | None. |
| September 23, Homer | None | Not good on account of no sewers | Yes | Yes | Yes | Several cases diphtheria. |
| September 27, Ovid | None | Not good | Yes | Yes | Yes | Several cases diphtheria. |
| September 28, Willard Insane Hospital | Dumped on vacant lot and covered with dirt | Very good | | Yes | Yes | None. |
| September 29, McGrawville | None | Good | Yes | Yes | Yes | None. |
| September 29, Marion | None | Good | Yes | Yes | Yes | None. |

REPORT OF CHIEF INSPECTOR OF SECOND DIVISION FOR MONTH OF SEPTEMBER, 1893 — (*Concluded*).

| DATE AND PLACE INSPECTED. | Railroad depots. | Steamboat landings. | Advice given to requests made by local authority. | Opinions, suggestions and general remarks. |
|---|---|---|---|---|
| September 6, Hannibal | Sanitary | None | The health officers in each of these towns are active and urgent in their efforts to secure a system of sewerage. I met the local boards of health in many of the towns and impressed them with the necessity of a more thorough system of sewerage and disposal of garbage. Most of the dwellings in my whole sanitary district use privy vaults, which with the best care of the health officer are in a very unsanitary condition. | During the three months that I have been acting as sanitary inspector I have visited and inspected every incorporated village and city except one in my district. Also, the hospital at Newark for feeble-minded women; the hospital at Syracuse for idiots; also Willard hospital for insane at Ovid. I have also personally inspected many of the public schools, some of which I found in a very unsanitary condition. |
| September 11, East Syracuse | Sanitary | None | | |
| September 11, Manlius Station | Sanitary | None | | |
| September 11, Manlius | Sanitary | None | | |
| September 11, Fayetteville | Sanitary | None | | |
| September 12, Baldwinsville | Sanitary | None | | |
| September 12, Van Buren, town | Sanitary | None | | |
| September 12, Cortland | Sanitary | None | | |
| September 23, Homer | Sanitary | None | | |
| September 27, Ovid | Sanitary | None | | |
| September 28, Willard Insane Hospital | Sanitary | None | | |
| September 29, McGrawville | | None | | |
| September 29, Marion | Sanitary | None | | |

All of which is respectfully submitted.

FRANK S. LOW,

*Sanitary Inspector Second Division, State Board of Health.*

## REPORT OF JOHN A. STAPLETON, M. D., CHIEF SANITARY INSPECTOR, THIRD DIVISION.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.:*

Dear Sir.— I have the honor to submit the following report for the month of September:

### PORTAGEVILLE, WYOMING COUNTY.

Health Officer, Robert Ray, M. D.

No system of sewerage.

Water supply from wells.

No general disposition of garbage.

Placards used for houses having contagious diseases, and considered quite efficient.

No arrangements for the isolation of patients, and no contagious-disease hospital.

No recent outbreaks of contagious diseases. In fact, Portageville is generally free from any contagious diseases.

Railroad station and closet not in as good sanitary condition as it should be. Advised health board as to the necessity of general and thorough cleaning of closets, and general better sanitary condition of back yards.

The village contains no sewers. Portageville is situated where there is naturally excellent drainage. However, the health officer has advised as to the necessity of sewerage in certain parts of the village of Portageville, but nothing definite has been brought forth. Informed the health officer that the State Board of Health wish each health board to formulate plans for an emergency hospital that can be used in case of necessity, to care for cholera patients should an invasion take place. Also advised him as to the necessity for a place for disinfecting and fumigating all baggage and luggage.

## CASTILE, WYOMING COUNTY.

Health Officer, Jacob True, M. D.

Dr. True is also health officer for the town of Castile.

This town is naturally situated for excellent drainage and for a good outlet for sewerage if the town had any. However, there is simply no sewerage whatever. There are a few open drains.

The water supply comes from springs two miles distant from village brought in through wooden pipes. The water is considered to be of very good quality.

No general disposition of garbage.

General sanitary condition is considered good, but only from its natural advantages of being on both sides of a creek.

The general cleaning of closets is not as thorough as it might be, and have advised health board to look to it more particularly.

There is a sanitarium in Castile which generally contains sixty to seventy patients throughout the year, and as far as I have been able to learn and investigate the filth and waste water empties entirely into a creek flowing through the village and later on emptying into Genesee river.

Placards are not used as extensively as they should be although Castile is comparatively free from contagious diseases. Have advised health board to be more particular as to the placarding of houses and buildings having contagious diseases.

No arrangements have been made for the isolation of patients, and no contagious-disease hospital.

No recent outbreaks of contagious diseases.

Railroad station in good sanitary condition, excepting the closet at station has been allowed to become filled and overflowed. The local health board has taken care of it, and has watched it rather carefully of late.

Advised board as to the necessity of placarding houses and insisting on the people using the spring water instead of well water; also advised them as to the necessity of looking after private vaults more particularly; advised them also as to the

ssity of having plans already in case it should become neces-
to use a hospital to care for cholera patients, and also a
e for the disinfection and fumigation of baggage.

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## PERRY, WYOMING COUNTY.

Health Officer, John Harding, M. D.

No system of sewerage with the exception of one small sewer (private) on one street.

Water supply from wells.

No general disposition of garbage.

The general sanitary condition is considered good.

Placards are used for houses having contagious diseases, but think they are not as extensively used as they should be.

No arrangements for the isolation of patients having contagious diseases and no contagious-disease hospital.

Railroad station in good sanitary condition.

For some years back there have been outbreaks of typhoid fever and diphtheria, but I have been unable to trace it to its origin. However, I think that a sewerage system, although it might not be very extensive, would improve the general sanitary condition of the village and would lessen to a great degree the possibility of a renewal of these attacks from either typhoid fever or diphtheria.

Have advised health officer to be very decided as to the matter of placarding houses having contagious diseases and also as to the necessity of a system of sewerage in the village.

Have advised health officer as to the necessity of formulating plans in case it were necessary to use a hospital for the reception of cholera, also as to the caring for patients, and disinfection and fumigation of baggage and luggage.

As far as I can learn a feeling of unity in the co-operation in health matters do not exist among the individual members of the health board, and for this reason I think, at times, that some things are passed by in a manner not entirely beneficial to the public health.

## PERRY, TOWN, WYOMING COUNTY.

Dr. P. S. Goodwin, M. D., Health Officer.

This comprises Perry Centre and West Perry, also all territory outside the village of Perry.

No system of sewerage.

No general disposition of garbage.

Water supply is from wells.

General sanitary condition, as a rule, considered very good. However, a few years ago there existed quite a number of cases of typhoid fever in Perry Centre, as to the cause I have been unable to learn.

Placards are used for houses having contagious diseases.

No arrangements for the insolation of patients and no contagious-disease hospital.

No recent outbreaks of contagious diseases.

Advised health officer as to the necessity of looking after the general sanitary condition of the town.

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## MIDDLEBURY, TOWN, WYOMING COUNTY.

Health Officer, S. C. Sweeting, M. D.

No system of sewerage.

Water supply in Wyoming from springs brought by pipe about one-half to one mile distant from village.

General sanitary condition good.

No general disposition of garbage.

Placards are used for houses having contagious diseases and considered efficient.

No arrangements for the isolation of patients and no contagious-disease hospital.

No recent outbreaks of contagious diseases.

Last year the villagers were forced to use water from wells from which no water had been drawn for six months or more on account of the freezing of the water in the pipes. The health officer informs me that, owing to the fact that many drank this water from the wells without boiling, considerable typhoid fever

existed during the time they were without the spring water. This supply is owned by a stock company.

No recent outbreaks of contagious diseases.

Railroad station in good sanitary condition.

Advised health officer as to formulating plans for reception of cholera patients, should it become necessary, also as to the disinfection and fumigation of baggage and luggage.

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## WARSAW, WYOMING COUNTY.

Health Officer, Z. J. Lusk, M. D.

The sewerage system of Warsaw consists of one trunk sewer three feet square which goes through Main street for a distance of about one-eighth of a mile. There is also one sewer running on a street west parallel with the main sewer which goes to make up the sewerage system of Warsaw. This would seem to me inadequate for a village containing 4,000 inhabitants.

There are many cesspools in the village. There are some water-closets connected with open sewers here.

The water supply is from springs coming from both sides of the village on hills and considered quite efficient. The water supply is sufficient for all household purposes and it seems that a more extensive sewerage system would be of great advantage to the village of Warsaw, considering that their water supply would be sufficient for all closet purposes as well as other household purposes.

No general disposition of garbage. Some is drawn by farmers to surrounding country.

General sanitary condition considered good.

Placards are used for houses having contagious diseases and considered quite efficient for quarantine.

Night soil is disposed of partly by carrying it into country and quite a number moved closets from place to place in the yard.

Railroad station in good sanitary condition. This is a town that has the Buffalo, Rochester and Pittsburg and New York,

Lake Erie and Western railroads entering it and there are many foreigners (transient) who come here looking for employment, and it might be a place for people to bring contagious diseases, such as small-pox, cholera, etc.

Advised health officer as to the necessity of more sewerage and formulating plans for cholera hospital, should it become necessary, also as to fumigation and disinfection of baggage.

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## GAINESVILLE, TOWN, WYOMING COUNTY.

Health Officer, S. P. Skiff, M. D.

Silver Springs, in the town of Gainesville, at the present time is visited by an epidemic, or rather an endemic, of typhoid fever. As far as I have been able to learn from investigation it seems to me due to water drawn from a reservoir where about this reservoir a number of loads of night soil have been deposited, and the water washing down the hill has carried this through a bed of gravel which exists near this reservoir, and the water is used by a certain class of people who work about the salt wells. It is confined strictly to inhabitants taking water from this particular spring, and more particularly to employes of this salt plant.

The condition of the town is good. It contains another reservoir on the west side, and the water has always been considered very pure.

No system of sewerage.

There is a pond from which water is drawn to be used as a cooling fluid for the manufacturing of salt and then allowed to run back into the pond where it becomes a stagnant pool. It is filthy and contains a scum at least five or six inches thick. At times the odor is decidedly unpleasant.

No general disposition of garbage.

Placards are used for houses having contagious diseases.

No contagious-disease hospital, or no arrangements for the care of patients having contagious diseases.

Railroad station in good sanitary condition.

ied health officer as to the necessity for cholera hospital, it become necessary, also a place for the disinfection and ion of baggage.
ied him to confer with the health board in regard to the id to the water supply.

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## HAVANA.

. T. Smelzer is Health Officer.
e are no sewers, except for surface water. The drainage y good.
e are no water-works, except for washing the streets. ater supply is from wells, mostly driven wells. The s very good.
age is cared for by a regular scavenger, under instruc- y health officers. It is dumped into a swamp north of age.
general sanitary condition is good, as evinced by the fact ere is no sickness of any kind in the village.
ards are used, and quarantine is enforced by the health

spital has been erected near Cook Academy, which can l at any time.
railroad depots are in good sanitary condition.
ate ditch sewer is, from lack of proper fall at the outlet, nce, but the State is making arrangements to abate it.

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## PRATTSBURGH, STEUBEN COUNTY.

Scott, M. D., Health Officer.
d meets on complaints.
er supply is from wells.
age cared for by householders.
ral sanitary condition good.
ards are used, and quarantine enforced.
th officer inspects and people remove night soil.

## BATH.

Dr. C. T. Stewart is health officer. He inspects the village thoroughly once a year, and public places once a month. The board of health meets on call.

There is no system of sewerage in the village.

Drainage is effected by cesspools and vaults. One-third of the vaults and privy drawers in the village are said to be water-tight.

The water supply is from a well, near the Canisteo river, located a mile above the village. There is also a supplemental supply from a bayou from the river, to be used in case of fire. The water is pumped into a reservoir and flows through the mains.

Garbage is cared for by householders. Night soil and contents of cesspools are deodorized and taken two miles out of the village.

The general sanitary condition is good. There is no diphtheria, and but little scarlet fever.

Placards are used and the quarantine is strict.

There is no hospital in the village.

No recent outbreak of contagious disease was reported.

The railroad depots are in good sanitary condition.

There is a public spirit in favor of cleanliness in the village.

The New York State Soldiers and Sailors' Home.—This institution is situated near Bath and has about one thousand (1,000) inmates. It is in very good condition, is well sewered, and has good water-works. The sewage is treated in Powers Patent Works, and seems to be thoroughly disinfected.

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## ITHACA.

The health officer is Dr. James T. Fahey. He makes his own inspections, but only on complaint. The board of health holds monthly meetings.

There are some surface sewers in the city, but no general system of sewerage.

e water supply is from reservoirs filled from natural
gs. The reservoirs are well built and well cared for. The
r is very good. Many use well water.
e garbage is cared for by a scavenger and is taken outside
ity. Farmers draw away the swill.
e general sanitary condition is good. There are two cases
phtheria and several mild cases of scarlet fever reported.
cards are used and quarantine is enjoined but not enforced.
e city hospital is owned by an association. The city has no
in it. There is no arrangement for the isolation of
ious diseases.
e most recent outbreak of contagious disease occurred
(7) or eight (8) years ago, when small-pox visited the city.
spital was built then and one could be put up any time on
notice.
e railroad depots and boat landings are in good sanitary
tion.
vised regular inspections and more attention to quarantine
ordered.

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## WATKINS.

J. F. Barnes is health officer.
e village is quite well sewered and house connections are
ally made.
posal of sewerage.—The sewers empty into the head of
a lake from two trunk lines.
e water supply is from Seneca lake, one-half mile from the
of the lake and two hundred (200) feet from shore. The
is pumped into a reservoir on the hill above the village.
rbage is carried away by a public scavenger and dumped a
from the village.
e general sanitary condition is good.
cards are used and the quarantine strictly enforced.
ere is no hospital, but one could be erected in a short time.
ere have been no recent outbreaks of contagious disease.

The railroad depot is in good sanitary condition. It is connected with the sewer and water-works.

The steamboat landing is clean and well kept.

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## VAN ETTENVILLE, CHEMUNG COUNTY.

Dr. C. A. Murray is health officer. The board of health is not active.

Placards are used and quarantine enforced when necessary.

There were no complaint made, no sickness in the village.

The railroad depot is in good sanitary condition.

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## SPENCER, TIOGA COUNTY.

Dr. M. A. Dumond is health officer. The board of health is the village board, by the terms of the charter.

There are no sewers except for surface water.

The water supply is mostly from driven wells.

Garbage is taken outside the village by the inhabitants.

The sanitary condition is generally good, although there is some trouble about diphtheria.

Placards are used and the quarantine is quite strict.

The railroad depots are in fair sanitary condition.

Advised that a board of health be organized under the general law.

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## NEWFIELD, TOMPKINS COUNTY.

Dr. C. C. Cook is health officer. No attention is paid to health matters.

There is no sickness in the village. No nuisances were noticed

Advised organization and preparation in case of necessity.

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## TRUMANSBURGH, TOMPKINS COUNTY.

Dr. C. Otis is health officer. Dr. F. A. Kerst, health officer of town of Ulysses.

There are no sewers. The drainage is good.

The water supply is from wells.

Placards are used and quarantine maintained.

Attention was called to Wetz's slaughter-house, outside the village, the refuse from which washes into the creek, flowing through the village; and in dry weather, when the creek is low, may be a cause of disease.

Advised that disinfectants be used more freely.

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## AVOCA, STEUBEN COUNTY.

Dr. Briggs is health officer.

The village has no sewers. The drainage is good.

The water supply, which is very good, is from springs and a reservoir.

Garbage is removed by householders.

Placards are used and quarantine enforced.

There is no epidemic in the village. A few cases of scarlet fever were reported.

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## HAMMONDSPORT, STEUBEN COUNTY.

Dr. Moses T. Babcock is health officer.

There are sewers for streets only.

The water supply is from wells.

The village is in a generally clean condition.

There were no nuisances reported. No unusual sickness.

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## ADDISON, STEUBEN COUNTY.

Dr. Rush P. Brown is health officer.

There are no sewers except for surface water.

The water supply is from a well near the Canisteo river pumped into a reservoir. It is very good.

The village is clean, and no epidemic was reported.

Placards are used and quarantine is enforced under an efficient health officer.

Inspected a stable of which complaint has been made. It could not be called a nuisance.

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## BIG FLATS, CHEMUNG COUNTY.

Dr. J. W. Stewart is health officer.

There are no water-works and no sewers in the village.

Placards are used and quarantine enforced.

Diphtheria prevails to some extent.

At Burdett and Mecklenburgh, in the town of Hector, Schuyler county, the health officer is Dr. A. V. Stobbs.

At Odessa, in the town of Catharine, Schuyler county, the health officer is Dr. Wm. P. Jones.

In these places I found little sickness and but few nuisances. The health officers are doing what is necessary.

R. P. BUSH,
*Inspector.*

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## COXSACKIE.

September 2. Dr. A. W. Van Slyke, health officer.

The drainage of the village is wretched; no system whatever, or any attempt at one. Some families drain waste water through yard, beneath the sidewalk in front of house, into the open street gutter. The lower portion of village is mostly made flat land and the tide water backs up into the cellars of the business places. The resident portion of village is almost entirely upon a hill. There runs through this portion a small stream which is covered in some places. Has several outhouses situated over it. Is insufficient to accommodate water thrown into it during a shower and overflows and backs into neighboring cellars.

Water supply from surface and driven wells.

Garbage is collected by surrounding farmers mostly; causes *little* trouble.

The general sanitary condition could be greatly improved, ile the streets are very clean and free from decomposing vege- ›le matter, and the vaults kept fairly clean, the faulty drain- ɛ is very unhealthy.

Houses where contagious diseases exist quarantined and ıcarded.

There are numerous neighboring sites whereupon a house ıld be erected in case of an epidemic.

No recent epidemic. Some recent cases of scarlet fever, light character.

The docks are in good sanitary condition. The closets at the ɛst Shore station require a deodorant.

The necessity of some immediate action is here evident. The noval of the vaults from the border of the stream advised ne at once, also the discontinuance of drainage into street tters. The side hill could and should be quickly and effectu- y drained. The drainage of the flat or business portion would a matter of some difficulty, perhaps an impossibility, being, it is, nearly on a level with the river and subject to the influx tide water through its drain pipes.

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## CATSKILL.

September 2. Dr. E. E. Elliott health officer.

The village has almost a complete system of sewerage, throw- ; material into Catskill creek. An ordinance advised com- lling builders to connect with sewer.

The water is pumped from the Hudson river into a reservoir, ıich supplies the village. With numerous mountain streams ıdily accessible this seems unnecessarily hazardous.

The garbage is collected twice weekly, and carried to a dump- ; ground, where it is disinfected with lime and copperas.

The general sanitary condition is fair; the streets are clean; › health board, however, has some difficulty in preventing ılers throwing vegetable matters into gutters. The vaults › cleaned twice yearly and upon complaint.

Houses containing contagious diseases are quarantined and placarded.

To be used in epidemics, there is a two-story frame building, well isolated, about one and one-half miles from village; will accommodate fifteen patients.

Village experienced a severe epidemic of diphtheria during fall of 1892; no recent cases. At present, some cases of scarlet fever.

Docks along Catskill creek and Hudson river in good sanitary condition.

Closets at West Shore station require a deodorant. There is much summer travel through this station, and during that time especially they should be carefully watched.

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## RICHFIELD SPRINGS.

September 8. Dr. W. V. Borland health officer; absent from village. J. F. Getman, president of board of health, interviewed, and the following facts were elicited from him:

The village has a thorough sewerage system, which throws sewerage matter into Canadaraga lake. The local board is gradually obliterating the vaults and compelling the residents to connect with the line of sewers. A sanitary, house-to-house inspection is now in process, and the traps, sinks, drains, cellars, vaults, etc., are thoroughly inspected and a report upon conditions found made to the secretary of the local board.

The water of village is pumped from Allen's lake into a reservoir, where it is filtered. The necessity of careful and systematic cleansing of filters impressed upon the president of the board.

The village supplies a dumping ground for garbage, and individuals cart garbage to it. It seems to be well handled and causes no trouble.

The general sanitary condition is excellent. The people are well educated up to the necessity and advantages of cleanliness.

Houses containing contagious diseases are quarantined rigidly

placarded. A site has been selected by the local board of th for the erection of an emergency hospital, which the d of trustees of village has promised to build during this— fall of 1893.

wo or three cases of diphtheria during spring of 1893. kly checked.

ıe energy and thoroughness of the work of the board is ly commendable.

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## COOPERSTOWN.

ptember 9. Dr. W. I. Bassett health officer.

ıe village has no sewerage system, though a number of ate sewers exist. The vaults are constantly troublesome; e is no regular cleaning of same. They are only cleaned ı complaint.

ıe water is pumped from Otsego lake to reservoir which plies village.

ıere is no system of garbage collection or disposal.

ıe general sanitary condition of village is poor; notwithding this, it is a healthful summer resort.

ouses where contagious diseases exist are not quarantined placarded.

t present there are a number of typhoid fever cases in village.

o house or place provided for isolation of epidemic cases.

losets in Cooperstown and Cherry Valley railroad station in l sanitary condition.

he system of sanitary regulations and requirements are here fully lax. The village should have a sewerage system. A em of garbage disposal should also be adopted. The local er complains of negligence on the part of village physicians eport contagious diseases to him. The vaults should be fully looked after and stringent measures adopted to compel ers to keep them in good sanitary condition. Some thought ıld be given the care of epidemic cases, should the emergency ent itself. The board seems to be inactive. Advice given he inspector to right the above loose and unsatisfactory ition.

## WALTON.

September 11. Dr. W. B. Morrow health officer.

The village has at present no sewerage system. Sev private drains exist, however, throwing sewage material Delaware river.

The water of village is taken from reservoirs supplied springs and surface water.

Garbage is mostly collected by surrounding farmers and as food for stock.

General sanitary condition of village is good; the streets remarkably clean. The vaults are only cleaned when neces and upon complaint. The removal of a pig-pen from cent village advised.

Quarantining of houses where contagious diseases exist n thorough as it should be; placards are used.

Numerous sites whereupon an emergency hospital coul erected in case of necessity.

No recent cases of contagious diseases in village.

Closets in New York, Ontario and Western station requi deodorant. In good sanitary condition otherwise.

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## DELHI.

September 12. Dr. H. U. Buckley, health officer, absent village. E. R. Harkness, president of board of health, viewed and the following facts elicited:

The village has no sewerage system. One would improv condition of the village greatly.

Water of village obtained from a reservoir supplied spring water lake.

Garbage is carted away by individuals; not thoroughly and causes trouble.

General sanitary condition of village is fair — streets in condition, vaults only cleaned when necessary and upon plaint, the people show a strong disposition to rebel when to clean vaults.

ouses having contagious diseases quarantined and arded.

umerous places for the building of a house in case of an emic.

o recent contagious diseases in village.

aults in New York, Ontario and Western station in filthy dition, require a thorough cleaning and disinfection.

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## HANCOCK.

eptember 12. Dr. G. A. Allen health officer.

hough an incorporated village, there exists no corpora- board of health. The town board has jurisdiction in the age. A corporation board should be instituted.

illage has no sewage system.

Vater of village is supplied by reservoir fed by springs and ace water.

arbage is all thrown from a bridge into the Delaware river.

eneral sanitary condition of the village is fair—streets clean.

lts cleaned only when necessary and upon complaint. At ent a number are situated over a small stream running ugh village. The immediate removal of these advised.

ouses having contagious diseases quarantined and placarded.

te located and necessary preparations made for the build- of an emergency hospital in case of an epidemic.

n epidemic of scarlet fever in village during past winter.

contagious diseases at present.

aults of New York, Lake Erie and Western station require orough cleaning and disinfection.

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## MONTICELLO.

eptember 13. Dr. McWilliams, absent from village.

mes T. Callbreath, Jr., justice of peace and member of n board of health, interviewed.

here is here no corporation board, the town board having diction in village.

No system of sewerage in village.

Water supplied by drain and surface wells.

Garbage mostly collected by surrounding farmers.

General sanitary condition of village good. Vaults are cleaned yearly; this is compulsory, and people obey ordinances pretty well; vaults giving little trouble.

Houses where contagious diseases exist quarantined and placarded.

A site located by board whereupon an emergency hospital could be erected in case of necessity.

A few cases of diphtheria in village during the early part of past summer.

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## GREEN ISLAND.

September 26. Dr. F. A. W. Rivet health officer.

Visited upon special request of local health officer. Recently people in Troy have been filling in an island between that place and Green Island with questionable material. The inhabitants of Green Island have complained of the unpleasant odors arising from the material used. Upon the morning of the inspection the odor was perceptible and very disagreeable. The complaint seems justifiable. Immediate steps should be taken to compel the people who are doing this work to use legitimate material, and not decomposing garbage or any substance that will create an unhealthy or offensive surrounding atmosphere.

Upon the inspection of Green Island upon July sixth last, the inspector strongly advised the abatement of a nuisance caused by the throwing of garbage upon the river bank. This advice has not been followed, and there is no improvement in the condition of the bank. The local officer stated that the board had considered the matter, but would take no action, also that the only objection to action was made by a member of the board who lived on said river bank. Clearly, the local board is neglecting its duty. The matter in question is one for action upon, notwithstanding this one objection.

H. SEYMOUR PEARSE.

October 1, 1893.

## SAG HARBOR, SUFFOLK COUNTY.

r. George H. Sterling is health officer.

ewerage.—There is a sewer from the watch-case factory with ch the Nassau House is connected, and one is being con- ıcted from the Union school-house. Both sewers empty into Harbor bay.

he water supply is from four driven wells, near the village, ıped into a stand pipe. It is very good, but only compara- ly few houses take water from the company. The others end on wells.

arbage is generally left on the ground. Little attention is n to cleaning it up.

he general sanitary condition is not good. Privy vaults and pools are in close proximity to wells. The members of the rd of health are not active, although the health officer is ing and anxious to do what he can to improve the sanitary dition of the place.

lacards are not used, but quarantine is maintained when essary by the health officer.

o hospital is maintained.

ne case of small-pox occurred three years ago. It was quar- ined in the house where the patient was attacked. The dis- did not spread.

he railroad depots and wharves are in good sanitary dition.

advised a thorough inspection, cleaning of cesspools and y vaults, and cleaning up of garbage.

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## EAST HAMPTON, SUFFOLK COUNTY.

n unincorporated village in the town of East Hampton, under town board of health.

r. E. Osborne is health officer.

ıe inspection was made at the request of Dr. J. Finley Bell,

contained in a letter to the department, dated October 26, 1893, in which the health officer and board of health were criticised for not properly quarantining scarlet fever.

It appears on investigation that the disease has been of a very mild type. The first cases occurred in April, in the family of S. Fields. The eruption was very slight, but it was apparently infectious, as the next people attacked lived just across the road in Mr. Jones' family. None of the cases were quarantined, and probably many were exposed, as a number were taken sick in different parts of the village and in the surrounding country. A difference of opinion existed between Dr. Bell and the health officer as to diagnosis and the necessity of strict quarantine. Dr. Osborne was not at home, but the supervisor and town clerk informed me of their manner of doing business. The board has regular quarterly meetings, and there is a committee on contagious diseases which meets whenever necessary and is empowered to act in emergencies. After the disease was ascertained without doubt to be scarlet fever, the board, in my opinion, took all necessary precautions to prevent its spread.

In the case of the "town politician" (Mr. Baker), Dr. Bell himself admitted that the rumors recited by him in his letter were not facts. The family submitted to the restraint imposed and had the house fumigated. Mr. Baker did go out on his farm to work.

The people of the village entertain many boarders from New York and other cities, and some of the visitors left town in consequence of the appearance of the disease.

No deaths from scarlet fever occurred.

The board of health did not placard the houses.

The water supply is from wells. The houses are not close together.

Garbage is fed to stock.

The sanitary condition is good. No new cases of fever have been reported in three weeks.

## WATERLOO, SENECA COUNTY.

)r. O. W. Peterson health officer.

'illage board composed of three, one of whom, Mr. Pratt, s as inspector. No regular inspections are made, except on ıplaints. Board meets once a month and on the call of the sident.

ystem of sewerage.—There are three sewers in the village the north side, one of which extends under the canal and )ties into the Seneca river; the other two empty into the al. Two of these are for long distances open, although sc connections are made at the upper portions of both. :y are natural water courses, but, as they are used, are ırly nuisances, and should be tiled or, at least, covered. The water supply is from the river. The water flows into a ervoir and is pumped into a stand-pipe. A filter was formerly d between two departments of the reservoir, but it has been ıoved. Over one-half the population use water from wells. Garbage is cared for by the people. The street commissioner ends to what is left in the streets.

The general sanitary condition is fairly good.

Placards are used; quarantine is quite well enforced where ı cases are reported.

The railroad depot is in good sanitary condition.

Diphtheria and the schools.—There are three public and two vate schools in the village of Waterloo. Each public school ring its own board of trustees. The first ward school, the ond ward school (union school), with some 350 pupils l the third ward school. Although so called they are not rd schools, and the boundaries of the school districts do not respond with those of the village. I inclose as a part of this ort the statement of the health officers in regard to the es of diphtheria and the circumstances connected with the sing of the schools.

find on investigation that probably the first death from htheria occurred in the family of William King—a girl, a ymate of the Goodroe girl. It was called "membranous

croup," and was not reported to the board of health. The King child's grandmother went to Mr. Huskins to clean house and possibly carried the infection there. I also learned that there had been a case in the family of Lewis Marshall, not reported. In view of the fact that the disease is fatal in such a large proportion of cases, that the Jamais girl attended school Thursday and a "social" Thursday evening, having a sore throat at the time, I approved the action of the board of health in closing the schools for a time, and advised quarantine of all cases of even suspected diphtheria. Advised a thorough inspection of the whole village and a systematic cleaning up. Many of the privy vaults inspected by me, I should judge, have never been cleaned.

The trustees of the union school cleaned the privy vaults, disinfected the schoolhouses — there are two — took the handle off the pump, tore down the placard of the board of health and ordered the school opened Monday, October thirtieth, taking the ground that as no notice had been served on them, and that the placard which was placed on the schoolhouse was not signed, no legal notice had been served. I advised that a legal fight be avoided, as the trustees had put the premises in good condition, and the notice was rather crude, being simply: "This school is closed by order of the board of health."

The other schools are still closed, and the rooms and outhouses are being cleaned and disinfected. Advised that they be all opened as soon as this work is accomplished, provided no new cases of the disease appear. Should it break out in many places around the village, I advised that the cases and the houses containing them be strictly quarantined. In this case the authorities would probably close the schools themselves.

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## FISHERS ISLAND, SUFFOLK COUNTY.

Investigation made at the urgent and repeated request of Mrs. Helen M. H. Sanford, of Poughkeepsie, N. Y., to ascertain the cause of diphtheria occurring at Fishers Island during *August* and September, 1893.

island is a part of the town of Southold, Dr. J. M. Hurn- Southold, is health officer.

ıry A. Wilber, a member of the town board of health and ice of the peace, resides on the island.

stimate the population to be about three hundred (300). mmer however this is increased by some one thousand to two thousand (2,000) people, who come to spend the ı and are accommodated at the hotels; of which there are viz.: The Mansion House, The Monnatuket House, and ononetto Inn; or occupy the cottages, built by the Furge- who own most of the island; or the Bartlett cottages.

the north-east shore there is a brick yard in which are yed about one hundred (100) laborers, mostly Poles and lians.

physician resides on the island. The inhabitants gener- end to New London when a physician is needed, which y seldom.

Painter of New York city was on the island during the er and attended most of the cases of diphtheria.

V. Gordon is superintendent of the island and looks after urgeson's interests there. There are three farms on the , The Mansion House farm, the middle farm, and the rop farm; the last at the easterly end of the island. farms furnish milk, vegetables, eggs, etc., to the summer nts.

complaint suggested two possible causes for the disease, ilk from the Mansion House dairy and the ice from r's pond.

stigation does not show either to be the cause. The e never visited the island before and none exists there The cases did not follow the supply in either case. The ouse and the stables are kept clean and the cows are y. No facts were ascertained that lead to the knowledge local cause. The plumbing in the hotels and the cottages l done. The cases were not grouped around any suspi- cesspool or water course.

The laborers at the brickyard, although taking the same milk, did not have the disease. The air and water are good, the land rolling, and the surroundings of the houses well looked after.

I have no doubt that the infection was introduced by people visiting the island; and the cases not being recognized and properly quarantined, many were exposed. In fact, I am informed that even after the danger was apparent and the disease known, no measures to prevent its spread were taken except by Superintendent Gordon, with the last patient.

I find that two sources of infection were probable.

First. A boy named J. O. Roberts came to the island in July from Weathersfield, Conn., with his grandparents, named Hurburt. He had sore throat for a long time, yet visited all parts of the island. It was also reported that a younger child in the same family was sick at home with diphtheria. This child came on later with the mother.

Second. Charley Hedge owned and lived on a catboat, doubtless had diphtheria, treated himself with kerosene oil (is now suffering from partial paralysis), still was able to be around and take parties fishing, etc., thus coming in contact with many people.

Favorable weather developed the disease in many places at about the same time. About thirty-five (35) cases followed. Five (5) died on the island, and several went home to die. The following are the names of those who died on the island:

Mrs. Newton, resident, near Mansion House; Harry Mathews, resident, near Mansion House; Mrs. Lawrence, visitor, Bartlett cottages; Irving boy, visitor, Bartlett cottages; Edward Esty, visitor, middle farm.

The last named was so confident that he took the disease from Hedge at a "garden dance" on the steamboat, that he wrote his sister to that effect, and advised her to stay away from him. The catboat was kept near the Bartlett cottages.

The cottages and hotels are now closed. Care should be taken before the opening of the season next year that the places where the disease existed should be thoroughly disinfected.

I am satisfied that no condition on the island originated the disease, de novo.

## UNADILLA, OTSEGO COUNTY.

The place was visited on account of communication from John Seith, president of the board of education.

A new board of health and a new health officer were appointed November eleventh. They are: W. H. Fisher, president; J. A. Weisner and R. Messenger.

The health officer is Dr. I. J. Whitney.

Sewerage.— There are several sewers, all built and owned by companies; one on Depot and Mill streets, to which are connected eight houses, and the Union school-house, one on Main street, accommodating seven houses, one on Church street used by twenty-eight houses, and one on Bridge street used by two blocks, and the Unadilla Hotel. All these empty into the Susquehanna river.

The water supply is excellent and is from two sources: The first, on a hill northwest of the village, is the outcome of numerous springs collected by a system of catch basins, settling reservoirs and reservoirs arranged so as to make contamination almost impossible, and as a reserve, four wells which can be used, if necessary, the pump and pipes being all ready; the second is a reservoir on Martin creek, the arrangements of which, although not so elaborate are very good, and the watershed clean.

Garbage is given little attention.

The general sanitary condition is bad, but the new board is very active. They have begun a system of inspections and improvements which are very necessary.

Placards are used and quarantine is quite well maintained.

Several deaths have occurred from diphtheria. The disease was at first called "membranous croup" and there were several cases before its real nature was discovered.

At the railroad depot of the Delaware and Hudson a privy was used which became so filthy that it was declared a nuisance. The authorities of the railroad abandoned it, rather than clean it, and the traveling public has no accommodations at the depot at present.

The nuisance complained of by Mr. Seith has been abated.

## GENEVA, ONTARIO COUNTY.

Dr. C. D. McCarty is health officer. The board of health m
every week.

Sewerage.—There are several sewers. One empties
Seneca lake at Mile Point, above the village. The others e
into the canal, which is an artificial ditch for about tw
miles. The authorities are anxious to put in a regular syst
sewers, but are awaiting the action of the State Board of H
as to the outlet; whether in the canal, the lake, or the
Only about two (2) per cent of the houses are now conn
with the sewers. Privy vaults and cesspools are generally

The water supply is mainly from the White Springs,
springs about two (2) miles west of the business part o
village, supplemented by water pumped from the lake int
same reservoir. The reservoir is well built and clean. A
eight hundred (800) houses and stores take village wate
others depend on wells.

Garbage and the contents of privy vaults are remove
householders, on order. Two scavengers make that a bus

The general sanitary condition is not good. Wells and p
are in too close proximity. Castle creek is really an
sewer, receiving the output of at least one sewer, and the
age of a number of privies, barns, etc., as well as serving
catch-all for slops and decaying vegetables. Another open
in the western part of the village, has a sewer of insuff
capacity, and in a wet time several yards are overflowed
water, leaving rubbish behind when the water drains aw

A hospital, capable of accommodating seven (7) or eig
patients is connected with the Old Ladies' Home, and is
the supervision of the Episcopal church. The village h
rights in it, although no one is refused admittance.

A single case of small-pox occurred in the early p
November. It was quarantined in the house, and is still
quarantine. The disease did not spread. The source of
tion has not been discovered.

Placards are used and quarantine maintained.

Railroad depots and steamboat landings are in good sanitary ondition.

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## PENN YAN, YATES COUNTY.

Dr. J. M. Waddell is health officer.

The board of health does not meet regularly, and inspections :e made only on complaint.

Sewerage.—There are no sewers for night soil in the village. rivy vaults, boxes and cesspools are used. Two sewers for ops and water-closets have been made from the public build- ıgs, one emptying into Jacob's brook, which flows through the illage, and the other into Sucker brook, near Keuka lake.

The water supply is from wells.

Garbage is removed by householders.

The general sanitary condition is fairly good, but many vaults eed cleaning out. Scarlet fever and diphtheria in a mild form xist in and around the village.

Placards are used and quarantine enforced when necessary.

Railroad depots and steamboat landings are in good sanitary ondition.

Jacob's brook flows through a thickly-settled portion of the illage, and receives washings from privies, barnyards and pig- ens. In dry seasons it can not fail to be a nuisance.

Advised that more thorough inspections be made and that :strictions be made on the deposits into Jacob's creek.

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## DRESDEN, YATES COUNTY.

An incorporated village on the west bank of Seneca lake. here is no village board of health. The town board assumes ) take cognizance of village affairs.

Dr. G. W. Brundage is health officer.

The village has no sewers and no water-works. Is cleanly ıd has very little sickness.

## CANANDAIGUA, ONTARIO COUNTY.

Dr. C. T. Mitchel is health officer.

The board of health is organized, but has not met since the village was visited by Dr. Stapleton, during the summer. This visit was not included in the report to me.

There have been three deaths from diphtheria and quite a number of isolated cases of typhoid fever. The causes for the latter-named disease were apparent in the water supply, in almost every instance, and were removed.

R. P. BUSH,
*Divisional Inspector First Division.*

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## OGDENSBURG.

Inspected by Dr. Kelsey, July seventh. By invitation of a number of citizens I visited this city November fourth to inspect the source of the water supply, and the State street sewer where it enters the St. Lawrence.

The city is supplied with water from the Oswegatchie river. The system is good and the supply adequate, but on the banks above and on each side there are three large cemeteries. There has been a great deal of discussion and many analyses of the water made to show that the drinking water is or is not contaminated by the drainage into the river from these cemeteries.

There is a quantity of vegetable matter always found in the waters of our northern rivers and the Oswegatchie is no exception. Here is furnished a good medium for the propagation of any pathogenic germs that may find their way into the river.

It is the judgment of your inspector that the water supply should be from above the cemeteries, and I am informed that the sewer at the foot of State street will be remedied in the spring.

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## TUPPER LAKE.

This is a new village located in the heart of the Adirondack *forest.* There is no system of sewerage or drainage, and the

sanitary condition is bad. There has been quite an outbreak of scarlet fever in the place, but a little strictness in the matter of quarantine has about stamped it out. I advise a more thorough organization to look after the public health of the place.

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## HANNAWA FALLS.

Have made several trips of inspection to this place. It is a small hamlet situated in the town of Pierrepont. Early in the fall diphtheria made its appearance in the family of one Andrew Crandall. Three out of five cases in this home were fatal. Dr. Russell, health officer, visited the place and instituted a strict quarantine.

In searching for the cause of the disease it was found that the water-closet and well were in close proximity, and that the closet was in a very filthy condition. It was ordered cleaned and disinfected. The disease spread to other families in the place but no deaths occurred, and at present the disease is entirely stamped out, and the sanitary condition so much improved that there seems but little to fear from it in the future.

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## CRARY'S MILLS.

This is another small place in the town of Pierrepont. There has been no diphtheria in the place proper, but quite a few cases just outside; no deaths. A general cleaning up was advised and now the disease has entirely disappeared.

November twenty-third I again visited Kings county brewery at Fort Hamilton. An extensive report on this nuisance has already been forwarded to the department.

Dr. John DeMund, health officer, informed me that the board, at one of its regular meetings, had resolved that a notice be served upon the brewery people, in which they were ordered to give bonds that a sewer connecting their brewery with a proper outlet would be constructed, and if the same was not finished

within a reasonable time the brewery would be obliged to cease operations. I trust this may end the matter.

November twenty-fourth I visited Brunswick, north of Troy, and made a special report to the department.

Respectfully submitted by

C. A. BARNETT, M. D.,
*Chief Inspector Second Sanitary Division.*

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BUFFALO, N. Y., *November* 27, 1893.

To LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.:*

I herewith transmit report of my work and investigations for month of November.

On the twelfth instant, in company with Mr. Jackson of Cheektawaga, I repaired to the "garbage crematory" (about which institution I reported some time ago) and found that the burning or furnace tanks were now in position and that they are able to consume all of the garbage sent them by the authorities of the city of Buffalo; these are not spreading, as of yore, the garbage in the open fields about which the citizens of both Buffalo and Cheektawaga complained.

I have received verbally and by letter complaints of the citizens of Buffalo as to the condition of the "Hamburgh canal," the stench of which is a perfect nuisance. I have directed some persons to notify you that I would do as ordered by you.

I desire to state that the canal above referred to is State property.

All of which is respectfully submitted.

JACOB GOLDBERG,
*Local Inspector.*

# Special Reports of Division Inspectors.

HORSEHEADS, N. Y., *December* 1, 1893.

*Secretary of the State Board of Health, Albany, N. Y.:*

Sir.—I inclose herewith a letter received this morning from Mrs. (Judge) Hamilton Ward, of Belmont, in regard to some State ditches in or near Waterloo. What shall I do in the matter?

Very respectfully, your obedient, servant.

R. P. BUSH,
*Chief Inspector First Division.*

BELMONT, ALLEGANY CO., N. Y., *November* 29, 1893.

Hon. R. P. BUSH:

Dear Sir.—Upon visiting Waterloo last week I learned there were many cases of diphtheria, malarial fevers, etc., and the doctor attributes it to the stagnant water overflowed from canal and remaining so, with the disease-breeding green surface nearly the year around. Many years ago the State drained the land by ditching to the fields, about three miles, where the entire surplus of water can be used, but the drains are filled up and many acres of land are made worse than useless by this neglect on the part of the State authorities and the health of the people endangered. One farmer, a tenant of mine, has been very ill and continues so from living near this overflowed land. Some few acres belong to me, but the overflow continues all the way for a mile or more east. Dr. Osborne and other physicians have pronounced against it, and they will do anything necessary on the subject. My husband, Judge Ward, thought something should be done at once before the Legislature meets so they could make an appropriation to drain it. Of course, we need your powerful influence in this work. If you could go to Waterloo, you would see the need of draining this land. They regretted your attention was not called to it when

you were there. Mr. Ward was with me there the next week. Anything you can do to help this along will be most gratefully appreciated, and if there are any suggestions you can make for us to work upon we shall be glad to hear from you. Hoping you will give this your sanction and aid, I am,

Yours very respectfully.

Mrs. M. A. C. WARD.

(Mrs. Hamilton Ward.)

ALBANY, *December* 4, 1893.

To R. P. BUSH, M. D., *Chief Inspector First Sanitary Division, Horsehead, N. Y.:*

Sir.— Your communication of the first instant inclosing letter to you from Mrs. Hamilton Ward has been received. You had better visit the place and make an investigation of the complaint made, reporting the result to this department.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

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## SWAMP LAND NEAR WATERLOO, SENECA COUNTY.

Complaint was made by Mrs. Hamilton Ward of Belmont, N. Y., that certain lands lying east of Waterloo were overflowed and thus were a source of malarial diseases. The letter of Mrs. W. was forwarded to the secretary of the State Board of Health at the time of its reception.

The condition is this: The Seneca river is practically the Seneca and Cayuga canal from Geneva to Seneca Falls. Along the south bank is the embarkment on which is the tow-path. On the south side of this embarkment are the swamps complained of. They commence about one and one-half miles east of Waterloo and extend about one-half mile easterly along the river; the embankment preventing the natural drainage of the territory into the river. Some time ago, I have not been able to ascertain when, although I have searched the records in the Department of Public Works. The State authorities made a ditch which evidently extended from the swamp complained of to the village of Seneca Falls, where the contents of said drain

enter a pipe by which they are conducted to the tailrace below a factory and so into the river below.

A culvert formerly existed below the swamps mentioned through which the water entered the river. This has been closed and the whole ditch has become so filled up that it is no longer of any use for the purpose of draining these swamps. The testimony of the physicians of Waterloo is, that the people living in the vicinity of these swamps do suffer from malarial diseases.

At Seneca Falls during wet weather, the pipes being of insufficient capacity to carry off the water, the lands there are flooded, and it is the opinion of Dr. W. M. Follett, health officer, that much sickness results from this cause.

The remedy would be to open this ditch, make some outlets into the river and a more capacious outlet at Seneca Falls. This in my opinion should be done by an appropriation from the State treasury, as it appears that the building of the embankment for the tow-path has caused the lack of drainage which results in the present unhealthful condition.

June 10, 1894.

R. P. BUSH,
*Inspector First Division.*

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HORSEHEADS, *December* 6, 1893.

*Secretary of the State Board of Health, Albany, N. Y.:*

Sir.— My attention has been called to the condition of a creamery owned by C. F. Taber & Co., in the town of Veteran, Chemung county. Three cases of typhoid (enteric) fever were in the building last fall; two have occurred this fall, with one death, one being sick now. The butter made there is washed with the same water that, doubtless, produced the disease. In my opinion the use of this butter is not without danger.

I have called the attention of the health officer of the town (Dr. G. M. Beard, of Millport) to the premises and advised that the factory be closed.

Very respectfully, your obedient servant.

R. P. BUSH,
*Division Inspector First Division.*

## TOWN OF VETERAN, CHEMUNG COUNTY.

Dr. George M. Beard, Millport, health officer.

The creamery of C. F. Taber & Co., in the eastern part of this town near the village of Sullivanville, was the cause of many complaints. In the same building with the creamery lives the family of J. Munroe Eddy, one of the owners and manager of the creamery. In the fall of 1892, October 9, three boys of Mr. Eddy had typhoid fever, two of them were very sick indeed, but all recovered. In the fall of 1893, at about the same date, another son was attacked, and although the boy recovered, both Mr. and Mrs. Eddy took the disease, and both have died. The water used by the family, as well as in the creamery to wash the butter with and supply the boiler which furnishes steam for the machinery, comes from two springs on the west (upper) side of the building, distant about two rods, and the other about five rods from the building, the one nearest the building is about twenty feet distant from the privy. The yard around the springs was formerly used as a hog yard, and I am informed, that dead animals have been buried there in former years. There is no doubt that the water supply was the cause of the disease. I reported the case to the local health officer, and advised that the creamery be closed, as it would seem that the butter made there and washed with this water, sold mostly in New York city, might contain the germs of the disease. The creamery is now closed, and I have advised that water be obtained from a well to be made at a distance from this infected ground. Dr. Beard has directed other sanitary changes to be made before the creamery shall be used again.

R. P. BUSH.

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OFFICE OF DR. JACOB GOLDBERG, No. 145 CEDAR ST.,
BUFFALO, N. Y., *September* 19, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, NY:*

Dear Sir.—At the request of Dr. A. W. Jaynes, health officer of South Tonawanda and eastern portion town of Wheatfield, I investigated what are known as the drain ditches of the *Pine woods* district. These ditches were built by an act of the

slature of 1870, which body passed a bill appropriating the
of $12,000 and the town of Wheatfield shall add thereto the
of $3,000, and be compelled to keep the ditches in good
lition.

my investigations I find a large ditch (which was formerly
wn as Pettit's creek) and numerous lateral ditches connect-
therewith. I find that each and every ditch is in such
lition as to obstruct the flow of surface water, due to the
wth of weeds, fallen trees, bushes, etc. With the exception
hose ditches which have their course through the property
x-Senator Payne through whom when a Member of Assembly
870 passed the act above referred. Senator Payne's prop-
consists of nearly 300 acres and the ditches throughout the
e as kept in exceptionally good condition and are the only ones
he numerous ones that are in good sanitary condition. There
two (2) school-houses in this immediate neighborhood, in one
hich there are over 350 pupils, and the water for drinking pur-
es was taken from a well into which the surface water, due to
fficient and defective drainage communicated, being in my
mation the cause of the fifteen or twenty case of diphtheria
fall, which epidemic was ably handled by Dr. Jayne. The
tor sought out the cause and found it in the well water
ve referred to. Dr. Jayne ordered the water for drinking
poses to be taken from Niagara river and thereby stamped
the disease, showing thereby that the surface water, due to
fficient and defective drainage, polluted the drinking water.
nd not only in the lateral ditches obstructions but along
main ditch the same state of affairs. I find at Oliver street
rge iron main or pipe of possibly from thirty-eight to forty
es in diameter, which, in my estimation, fails to be of any
ice to assist the flow of water at this part, from the fact
ts being on the same level as the ditch and there is no cur-
t or anything to stimulate the flow the water which is
id remains stationary and becomes stagnant, so
h so, that at the first frost of winter the small
unt of water at this pipe freezes and forms a
e cake of ice which is continually enlarging as

water and snow reach this point, and finally competely blocking the flow. I am told that these pipes are too small in diameter, from the fact that in the spring of the year, when the ice and snow melt or even during a hard and continuous rain, the lands are made a veritable swamp, thereby increasing the danger of epidemics.

I would recommend that the town of Wheatfied be notified that they must open said ditches, which they have not done in the last six years (the bill of 1870 making it incumbent on them to keep it open), and that the following abutments or arches be placed at the following points: One abutment at the Tonawanda Iron and Steel Company's works, one at Oliver street, and one at the New York Central and Hudson River railroad tracks.

All of which is respectfully submitted,

JACOB GOLDBERG,
*Local Inspector.*

P. S. I neglected to state that the land in this district is very level and it can not be drained into the canal on account of the dam being four feet above the level, so that it must be drained into Niagara river. J. G.

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THERESA, *August* 5, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N.Y.:*

My Dear Sir.—Having visited and inspected the village of Antwerp, N. Y., Ira H. Abel, health officer, I report as follows:

No sewerage; natural drainage.

Privy vaults cleaned, contents buried and choloride of lime used.

Water supply good, from wells.

Garbage taken care of by individuals.

General sanitary condition fairly good.

Houses having contagious diseases are placarded and efficiently quarantied.

No arrangements for isolation of patients with contagious diseases.

No recent outbreaks of contagious diseases except that there re several cases of typhoid fever in the vicinity of a certain heese factory — the accompanying report explains contaminat- ng influences — and the good people of Antwerp pray that the tate advise them how to proceed for the abatment of the nuis- nce. They complain that they have no funds with which to roceed. I advised them to put in a certain system of tile drain- ge which would carry off all deleterious matter and empty the me into the river below the village.

There is a great amount of caseine deposited on the ground ear the factory which I advised being drawn away and the round property disinfected.

The factory and its surroundings is certainly a great nuisance, etrimental to the health of persons living in the vicinity and hould be immediately abated.

Very truly yours.

JAMES E. KELSEY,
*Chief Inspector First Sanitary Division.*

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ANTWERP, N. Y., *August* 1, 1893.

To JAMES E. KELSEY, M. D., *Inspector of the Honorable Board of Health of the State of New York:*

Esteemed Sir.— We herewith beg to report to you certain uisances existing within our corporate limits and ask your norable Board for their assistance in abating the same, at nce.

First. There is a cheese factory within the corporate limits f the village, and less than one-quarter mile from the center f our village, which manufactures all kinds of fancy cheese, uch as Neufchatel, sq. cream, De Isigny, Bri. Muenster and imberger, the last two kinds being offensive to smell and as he state of decomposition progresses emit gases which we hink harmful to health.

This factory runs the year around and uses the milk from bout 2,200 to 2,400 cows daily, which sometimes reaches over 0,000 pounds per day. They have also in their factory three parate water-closets and one urinal. During the process

of manufacture, it becomes necessary to scrape off the outside of certain kinds of these cheese (which are a soft cheese) and this refuse, consisting principally of casein, is placed in open cans outside their factory and is drawn off at their pleasure, sometimes not until the refuse is alive with maggots and throws off a terrible stench. This factory is run and owned by F. X. Baumut & Co., of Antwerp, N. Y., also 26 Avenue A, New York, N. Y.

Second. On the premises owned by above firm there was built by Hayne & Whitaker (they receiving a lease for a term of six years from April 1, 1892, with privilege of removing building, machinery, etc., at the expiration of said time), a sugar or milk factory, in which sugar of milk was made from the whey and skim-milk received from said Baumut cheese factory.

These two factories being about four rods apart, the whey and skim-milk is conducted from the cheese factory to the sugar factory in tile and is there received in three or four large wooden vats or tubs, which are placed in the ground three feet deep over which is the milk sugar factory.

These tubs often contain large quantities of solid matter which, in time, decomposes. The distance between the ground and floor above being about three feet, makes it a bad place to keep clean. From these vats the whey is pumped above, where it is condensed by vacuum pans; but before the skim-milk can be so treated it is pumped to the rear of their factory into a large receiving vat, where the solids of the skim-milk are separated, which consists principally of casein and albumen and some water. This refuse consisting of several tons, sometimes is allowed to remain in vats and on the ground until the same becomes a living mass — until decomposition sets in, then there comes from it a smell almost unbearable. Under the sugar of milk factory, where the above wooden vats are placed, which we have described as receptacles for the whey, the ground is thoroughly saturated with slops and drainage from above, where the sugar is made; to make a long story short, the premises of the sugar of milk factory and cheese factory are in an unsanitary condition.

The last, but not the least, of the causes, from which parties
nplains of these two firms is their drainage which is con-
cted by tile four or five rods into an open ditch, which then
es a winding course, something over one-fourth of a mile, to
ove, where it runs into dead water and remains, the current
t being sufficient to carry it out into the stream, but remains
a hot-bed for the germs of disease, which has been shown, by
alysis of this drainage, by Dr. Jessie Adams, of Waterbury,
Y., a chemist of twenty-five years practical experience. The
nch from this cove has, at times, settled over a large part of
r village, causing people to close doors and windows. This
tem of drainage has been improved on somewhat, but not to
satisfaction of the board, as will be explained. Our way not
ng clear what to do or how to get this nuisance abated (the
rties causing the same have, at all times, disregarded all
lers coming from the board), the board on May 25, 1893, con-
ted of only three members and health officer. At that time
sent a member of our board to Albany, N. Y., to confer with
e secretary of the State Board, who gave him such
structions as the secretary thought would enable us to carry
t our plans as regarding the nuisance and have the same
ated. The three members, feeling that there was more respon-
ility than they wished to take upon themselves, petitioned the
stees of the village to add to our board three more members,
ich was promptly done May 27, 1893. On May 29, 1893, board
t at office of Ira H. Abell, M. D., full board being present. At
is time health officer reported "that he had examined the
tter of discharge from the cheese factory of F. X. Baumut &
, and the sugar of milk factory of Hayne & Whitaker, and
ported it to be a nuisance and detrimental to health."

The report of health officer was received and motion
s made and carried that health officer, Ira H. Abell,
D., be instructed to notify F. X. Baumut & Co.
d Hayne & Whitaker to appear before this board May 31,
93, at 10 o'clock at the office of Ira H. Abell, M. D., to show
se why the same should not be declared a nuisance and
ated.

Board met pursuant to adjournment at office of Ira Abell, M. D., May 31, 1893. The firms of Hayne & Whitaker, and F. X. Baumut & Co., appeared with their counsel, Attorney Hy Purcell, at the same time Watsey M. Rogers, Esq., appeared for the board.

On suggestion of E. B. Bulkley, a member of the board, all the parties concerned took a recess to examine said premises and ditch to give the attorneys a better understanding of the existing nuisance. At the time we were examining said ditch Baumut and Whitaker, each representing their respective firms declared there was nothing ever run into said ditch, but clean water, but their men at their factories, not knowing, that we, as a board, were examining ditch, etc., let off refuse sufficient to fill the ditch, consisting of casein, albumen, etc. During this examination the board went over and pointed out a course where said parties could lay a tile drain, for the purpose of carrying off said drainage, below village, in running water, which would be satisfactory to board.

After board met pursuant to adjournment, at 1 o'clock, the attorney for F. X. Baumut & Co., and Hayne & Whitaker asked for an adjournment; so that he could confer with Christine Baumut, she being in New York at this time, and the principal person of the firm of F. X. Baumut & Co., and he said, "he hoped the trouble could be settled to the satisfaction of all." The board thinking that such interview might bring around a satisfactory settlement, after consulting their attorney, consented to adjournment to June 5, 1893. It was understood that the attorney for the defendants would confer with Mrs. Christine Baumut and if, after investigating the case more thoroughly, they thought it advisable to lay sewer as board wanted, neither party would appear with attorneys at next meeting, June 5, 1893. Upon advise of her attorneys, Mrs. Baumut decided to put in such sewer as was required. On June 5, 1893, board met and heard testimony of L. C. Whitaker; and Chas. H. J. Baumut was present to represent the F. X. Baumut & Co. firm, but did not desire to give any additional evidence.

pon hearing all testimony offered the board reported that the ories should be declared a nuisance and detrimental to lth. On motion, the health officer was instructed to serve following notice of complaint against Christine Baumut and ers.

That the condition found on the premises of Chris- e Baumut and others and the manner of the dis- rge and disposal of the wastes from the fac- ies operated by said Christine Baumut et al. hereby declared to be a nuisance of menace and danger to public health, and the said Christine Baumut and others hereby ordered to abate or remove the same in such manner will render the said premises and said discharge of factory stes of no nuisance to health, within ten days from date of s order, June 5, 1893."

The above order was also ordered served on S. C. Hayne & C. Whitaker. Notices were duly served by health officer.

On June sixteenth board met, full board being present. ssrs. Baumut and Whitaker were invited to come before the rd, in as much as they had done nothing to remove said sance.

hey met said board and informed them they were going to in one and one-half inch iron pipe, and pump said discharge river from a large receiving vat at factory; they proposing connect all drains around their factories and run the same a vat and use a force pump to discharge it from said vat, they would commence work at once.

Board convened June 19, 1893, all members present.

The parties having done nothing up to this time the following olution was passed:

"Resolved, That board protest against the one and one-half h iron pipe being substituted as against the six-inch tile as mpetent to carry off the drainage from said factories."

Messrs. Baumut and Whitaker each positively refused to put any pipe except the iron pipe, for the reason it could be done much the cheaper. The following resolution was then opted:

"Resolved, That after six days from date, June 19, 1893, time which the parties of F. X. Baumut & Co. and Hay Whitaker wish to experiment with one and one-half inch pi a conductor for waste from said factories, that if said nui is not satifactorily removed that this board proceed at on put in sewer from factory to river below bridge, and use size tile as will be large enough to carry off said wast drainage, the cost of same to be assessed upon said prop of F. X. Baumut & Co. and Hayne & Whitaker and col from them."

Since then the above parties have put in their pipe as thought would answer the purpose. They connected th at their factories to a large tub, except drains from their kitchen, where the slops from dish washing have to be care of, and waste from water-closets, all run as before in open ditch, which finds its way to the cove, or, rather, it in the ditch at factory.

The iron pipe is on top of the ground, or, at the most, in places it is six inches under, which is not practical for use. The pipe also does not carry off all the solids, bu settle in the bottom of the vat and have to be drawn awa when this is done it creates a stench almost unbearable vat, in itself, is a nuisance, as it smells badly around it, covered with only loose plank. As a board, we wish to suitable sewer put in, which will carry off this refuse w endangering the health of the people at large, which w sider the present system does. Even if the present worked satisfactorily through the summer and fall mon would expect again in the winter that the deposit would be run into the cove, waiting only for the spring to op warm weather come to have it endanger the lives of abou people. The corporation, at the present time, not havi funds necessary to construct said sewer, and not feelin we should personally become liable for the expense of th until the respective firms of F. X. Baumut & Co. and H Whitaker could be made to settle for the cost of same. knowing our position, only make fun of any orders we

them. We ask that your Board will in some way aid us at once in this matter, and assist us in some way to dispose of a great nuisance, which is, as we consider it, endangering the health of the people of our entire village.

Respectfully submitted.

IRA H. ABELL,
*Health Officer.*

HENRY WELCH,
*President.*

ROY H. BENT,
GEO. H. LATHAN,
E. B. BULKLEY,
*Board of Health of the Village of Antwerp, N. Y.*

Signed, August 1, 1893.

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HORSEHEADS, N. Y., *August* 14, 1893.

*Secretary State Board of Health, Albany, N. Y.:*

Dear Sir.— In compliance with the request contained in your letter of the fourth instant I proceeded to Jamestown on the seventh, and spent August eighth, ninth and tenth in and around that city. The inhabitants, including the physicians and members of the board of health, have arrayed themselves on one side or the other of a law suit between Mr. Jones, who owns some 400 acres of swamp land between the lake and Jamestown, and Mr. Warner, who owns the upper dam in the outlet. One party assigns all their troubles to the presence of the dams; the other insists that the dams have nothing to do with the unsanitary condition of the city. Dr. W. H. Bergtold, of Buffalo, has been there, and has made quite an extended report to the local board of health, which I send inclosed, although some of the statements are not borne out by my investigations. I also inclose a map on which the locations of the dams are represented, and also the locality in which the first cases of diphtheria occurred and where it lingered for some time.

## JAMESTOWN.

Health officer, Dr. A. Henry Bowers. The board of health meets every week and employs an inspector. That they are efficient is proven by the fact that suit has been brought against the health officer and several members of the board for forcibly entering a house for the purpose of disinfecting it after a death from diphtheria had occurred in it. Strange to say the house belonged to a practicing physician, who attended the case.

Sewerage and drainage.—The city authorities are building about thirteen miles of sewers. One-half is completed, but no part is in use yet. When completed the sewage will be conducted into the outlet below Falconer, about six miles from the center of population of the city. Since the settlement of the place the custom has been to dig a hole in the ground, and put the privy over it; fill in a little, year by year, with earth; when full dig another hole and move the privy over that. In this way the soil has become saturated. At present all are waiting for the completion of the sewers.

Water supply.—The water supply is excellent. It is from artesian wells at Falconer; they are from 100 to 150 feet deep and the water is pure and cold. It is pumped into a well-constructed and carefully-kept reservoir and is supplied to the city by gravity. Many of the householders, however, do not avail themselves of it.

Garbage.—The garbage, vegetables, etc., are taken away by swillgatherers, though much is left around by back doors and in alleyways. The city has a dumping-ground some two miles out towards the lake, and hires a man to disinfect and bury what reaches him, but he handles little except dry rubbish.

General sanitary conditions.—As may be seen above, the sanitary condition of Jamestown is not good. Diphtheria has prevailed there for a year. The cases have been more numerous since September 1, 1892; there have been about 300 cases reported and seventy deaths. During the week ending August fifth, twenty-nine houses were placarded; on the tenth instant only ten.

The causes for the prevalence of the disease I attribute, first, to the nature and condition of the soil. On the south side, along Baker street, is a creek which is little more or less than an open sewer. On the high ground the privy caults are necessarily shallow, owing to rocks and clay composing the first substratum. The lowland is almost entirely "made land" and any kind of drainage is almost impossible. This is the part of the city in which most of the cases of diphtheria have occurred. Second, to lack of cleanliness and drainage through the city. Third, the condition of the outlet. The first dam was built in 1807; the second in 1817, and the third about 1821. The first one has been entirely out once, almost twenty years ago. The first (upper) one is used principally for storing logs. Although it has a race about 300 yards long that furnishes water to the grist-mill and worsted-works, into this race three or four private sewers empty, as does the wash from the worsted-mills. The logs at first do no harm except to obstruct the flow of water, but after becoming water-soaked many sink to the bottom and rot. The logs for the second dam, running a saw-mill, are passed over the first dam and continue down the stream. The third dam catches all the floating refuse and driftwood that comes down, and now contains an acre or more; in which, the inspector tells me, are frequently found dead animals. Add to this the wash from the surface of the ground in the city, the streets and the stables, as well as the leachings from privies and cesspools (almost none of which are water-tight) for the period of eighty years, and it can be imagined that, notwithstanding there is a fairly good current — about seventy feet fall in four miles — the bottoms and shores of these dams are covered by a very unhealthful collection, and when the dams are lowered a part is exposed to the sun, and furnish exhalations not conducive to health. Fourth, the lack of efficient quarantine at first allowed the disease to become scattered through the city and the surrounding country.

Placards are used even in suspected cases and quarantine enjoined but not strictly enforced.

The health officer attends to disinfecting after a death, directs it after convalesence.

Hospitals.— There is a hospital in the city owned and controlled by the Women's Christian Association of Jamestown, but the city has no rights in it, although no patient has ever been turned away. Some twenty cases of diphtheria have been treated there with no other evil result than the infection of one of the nurses. This association has offered to the board of health the use of a building in the yard (an old chapel) and offer nurses and care for such cases as can not be well isolated and cared for at home. An excited crowd attended the meeting of the common council, held to consider the matter and by incendiary threats and demonstrations deterred the authorities from establishing the hospital there.

There is a pest-house about two miles out, well located, which will accommodate eight patients. This was built four years ago for small-pox patients of which there were fourteen, one of whom died.

Depots and landings.— A nuisance was found at the steamboat dock in the open privies and slops thrown on the muddy shore, not disinfected nor carried off by the water. The Erie depot is an old building rotting down, but the privies have a sewer into the race and are flushed daily.

I met the health board and the lady managers of the hospital and advised :

That the annex to the hospital should be put in condition for the reception of patients who can not be isolated or well cared for at home — charity and transient patients — unless a better place could be found.

That additional inspectors be employed to enforce quarantine and insist on cleaning up the city.

That the owners of the dams be compelled to clean out the drift wood, etc., and keep an open channel.

I believe that with these things accomplished and the sewers completed and used and the ground setted that the health of Jamestown will be improved.

Very respectfully, your obedient servant,

R. P. BUSH

## INSPECTION OF KINGS COUNTY BREWERY, FORT HAMILTON, KINGS COUNTY.

Under special instructions from State Board of Health, I visited the above premises.

Many complaints of nuisances, arising from the manner of sewage disposal of this place, together with petitions, requesting the department to aid in the abatement of the same, have been received by the divisional inspector.

The following condition was found:

A number of years ago the town undertook to drain ponds in the vicinity of this property, and to that end a drain was built running down Third avenue to what is known as the "Shore road." Third avenue ends at the "Shore road," and the land on the west side was the property of George S. Geleon.

Permission was granted to run this surface drain over this property. Down the bank it is simply a wooden chute, that ends about 100 feet from high-water mark. This drain is still needed for the purpose for which it was built.

Some time in 1892, or 1893, this brewery was built. It stands on Third avenue, and about one-quarter of a mile from the "Shore road." They have used, and still are using, this drain as a sewer. Along the line of this drain there is a very perceptible and disagreeable odor, and at the junction of Third avenue and the "Shore road" there are two manholes from which the odor is terrible in hot weather. Many times during the summer the wooden chute running down to the bank has become clogged with refuse, and from the point where this chute empties to the water large quantities of brewery refuse are allowed to accumulate. Here, as the department can readily see, is a menace to the public health, as well as a disagreeable nuisance.

The remedy lies in the construction of a suitable sewer, connecting the brewery with a proper outlet. The brewery people are inclined to be fair in the matter, petitions from the people of the vicinity notwithstanding.

They offer to construct a proper sewer at their own expense along the public highway to the "Shore road," and, with the per-

mission of the property owners, will carry the sewer out where the current will dispose of the sewage.

Those who are loudest in their calls for the abatement of the nuisance refuse, thus far, to give consent for the construction of the sewer across their private property, while others object to this manner of sewage disposal, on the ground that it will damage the facilities for bathing at this place.

Your inspector desires to say that the attacks upon the local health board are unjust. I spent considerable time in the company of the health officer, Dr. John E. DeMund, and I found him thoroughly alive to the demand and working earnestly to bring about a just and proper settlement of the matter.

I have advised the property owners on the west side of the "Shore road" to give the desired permission to run the sewer across their property, and I believe the matter will be settled in this manner.

The health officer will advise me of any changes in the situation, and a further report may be expected in the near future.

Very respectfully submitted by

C. A. BARNETT,
*Chief Divisional Inspector.*

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*To the State Board of Health Commissioners of the State of New York:*

We, the undersigned, residents and taxpayers of the town of Brunswick, N. Y., do hereby certify that there is not a sufficient opening at the north end of the culvert leading from the premises of Mrs. Mary J. Roberts, under the stone road, in the town of Brunswick, to drain the said premises, thereby endangering the health of the family residing on said Roberts' premises:

E. S. BUNCE.
JOHN H. DUKE.
W. C. WINNE.
J. E. RODEN.
JACOB MAYER.
WESTON LAWLESS.
JOSEPH B. BETTS.
HOMER De SILVA.

*To the State Board of Health Commissioners of the State of New York:*

This is to certify that the culvert leading under the highway running from Troy to Bennington and in front of the residence of Mrs. Mary J. Roberts in the town of Brunswick, N. Y., is out of repair and there is no outlet sufficient to carry off the natural flow of water from the premises of Mrs. Roberts, and causes the water to back up and remain on said premises, thereby creating a nuisance which has caused sickness in her family and is liable to cause sickness; that said Mrs. Roberts has made an effort to have the commissioners repair the said culvert and to abate the said nuisance, and they have refused and still refuse to make such repairs.

R. D. TRAVER, M. D.
HENRY B. BURTON, M. D.,
*Medical Sanitary Inspector, City of Troy, N. Y.*
R. De BLOSS, M. D.

Dated Troy, N. Y., September 22, 1893.

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ALBANY, *November* 15, 1893.

To C. A. BARNETTT, M. D., *Chief Inspector Second Division, Potsdam, N. Y.:*

Sir.—I inclose you copies of two petitions received this day. The health officer of Brunswick is Dr. St. John of Center Brunswick. If you can come down the first of the week, I would like you to make an inspection of this complaint. As the way to reach the place is via Troy, if you will come here first I will give you fuller particulars regarding the trouble.

If possible would like you to come by Tuesday.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

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POTSDAM, N. Y., *November* 30, 1893.

Under special instructions from the State Board of Health I visited the premises of Mrs. Mary J. Roberts, in the town of Brunswick, on the road leading from Troy to Bennington.

Mrs. Roberts is the complainant in this matter, in a petition bearing date of November 22, 1893, and which is signed by Dr. Traver and Dr. DeBloss, also Dr. Henry B. Burton, medical sanitary inspector of the city of Troy; in this petition she makes the following complaint: A culvert under the highway leading from Troy to Bennington, and in front of her residence, is out of repair and has not a sufficient outlet to carry off the natural flow of water from her premises; that an open ditch across her land is the natural course for the surface water which flows from the land above hers; that complainant has used every effort to have the necessary changes made by the proper parties without avail and hence her request that the State Board come to her assistance in the abatement of this nuisance.

I made a very careful inspection of this culvert and lands adjacent to the same. I find the following conditions: The property of Mrs. Mary J. Roberts is the natural waterway for the surface drainage of the elevations on the southern side of her property. That on the premises above her is a slaughter-house and stock-yard, and that a covered drain leads from them and empties into the open ditch that runs across her property; that this ditch is connected with the culvert in question, and that the culvert and ditch across Mrs. Roberts property and the stock-yard and buildings connected with it are in proper sanitary condition.

The trouble arises from the connection with this culvert on its southern side and on the property of one M. P. Hayner.

In order that the department may better understand this matter I will give a short history.

This culvert was built about the year 1828. Seven or eight years ago it was repaired and the drainage through it was perfect. In 1888, to prevent the overflow of water upon his land, Mr. Hayner built a covered ditch about seventy-five or eighty feet in length that ends in a cesspool filled with stone. This ditch extends on to the highway and is connected with the end of culvert at its southern exit in such a manner as to allow no water to escape on the road side.

arrangement makes it neccessary for all surface water
g through culvert to drain or leach away from the ditch
blind extremity.

ine the outlet here when the ground is frozen, a condi-
hich always exists in the spring when the requirements
od waterway are most desirable. I examined the cover-
this blind ditch and found numerous openings where the
had forced its way to the surface, due to the force of the
ılated water on the lands above.

ıd herewith a carefully prepared map of the grounds
ed which, I trust, will aid the department to a better
tanding of the matter.

inspector most respectfully recommends that the depart-
ive this matter its immediate attention and that every
possible be used to give relief from the conditions herein
ated.

e is no question but that this culvert should be left open,
t on the roadside, and, what would be much better, a
drain should be made to carry off the waste from the
o the south.

matter has been in the courts, and an order compelling
ıyner to open this culvert granted. For some reason
vn to your inspector the order of the court has not been
ed with.

Respectfully submitted by

C. A. BARNETT,

*Chief Inspector Second Sanitary Division.*

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er special instructions from the State Board of Health I
Tivoli, December 6, 1893. The population of Tivoli is
l,600.

ecember of 1892, the first case of diphtheria broke out
ıce that time they have not been free from the disease.
the year, over eighty cases of diphtheria have been
d, with nineteen deaths. At present there are seven
I made a personal inspection of the village.

There is no system of drainage or sewerage, no collection of garbage has been made and no place selected as a dumping ground for the same. The local health officer informed me that there had never been a sanitary inspection made and the care of water-closets or other filth-collecting places had always been left for the owners to look after.

The sanitary condition of the place is bad, and I am convinced that the cause of this protracted scourge is due to:

1. The filthy condition of the village.

2. The improper construction of the vaults of the water-closets and the neglect of cleaning and disinfecting them.

3. Ineffectual quarantine, caused by neglect on the part of the people in carrying out the orders of the local health board.

4. Contamination of the drinking water.

At a meeting of the local health board, at which your inspector was present, it was resolved to appoint an officer to see that the rules laid down by the board in relation to quarantine are rigidly enforced. An inspector was appointed to go over the village and see that all filth centers are properly cleaned and disinfected.

Two wells of the place, from which a large number of people received their supply of drinking water, and which, beyond doubt, are contaminated, were ordered closed, and placards posted in public places instructing the people to boil all water used for drinking purposes.

The churches and schools were ordered closed and all public assemblages prohibited.

Since making my report in person, December seventh, I have been in correspondence with the secretary of the board and his last letter, written December thirteenth, states that there are no new cases and that all is progressing finely with them.

I am in communication with the board and will report any matter of interest to the department promptly.

Very respectfully submitted by

C. A. BARNETT, M. D.

*Chief Inspector Second Sanitary Division.*

## GROTON, TOMPKINS COUNTY.

he health officer is Dr. A. M. Baldwin. There is no village
d of health. The board of trustees of the village passed a
lution putting the village under the town board of health.
a majority of this board reside outside of the village no
ation is paid to sanitary affairs in the village.

werage.—There is a short sewer down Cortland street
h empties into Beach's pond, a mill pond covering about an
of land. Five or six houses are connected with this sewer.
e water supply is from springs and a stream northeast of
village, and is very good. About one-half of the houses are
ected.

rbage is left to rot behind the houses and blocks.

e general sanitary condition is as bad as possible. The
gon-works, employing from one hundred and fifty (150) to
hundred (200) men, have a privy over Beach's pond; and
ral blocks and houses have privies on the bank of this pond
along the race, the deposits from which drain into them.
rt of the pond west of the Lehigh Valley railroad is really
nd of stagnant water, and when the water is low must
titute a nuisance. Privy vaults, where there are vaults,
not cared for, and where there are none the accumulations
not removed or disinfected.

acards are generally used; but the physicians can not, at
ent, agree as to the diagnosis of diphtheria, some calling
fatal cases that have occurred "membranous croup,"
ough the infection of others from these cases or the houses
hich they were is definitely and easily traced.

e railroad depots are in good canitary condition.

e cases of diphtheria originated in the village near where
tle creek flows westerly to the mill pond; in the neighbor-
of Dr. Baldwin's house, as it comes down the hill, it
ves drainage from privies, barns, back yards, etc. At this
e the fall is less and the rapid flow of the water is some-
t impeded. Within two hundred (200) yards of this place

have occurred several cases: Mamie Hall, the children of Dr. A. M. Baldwin, the children of Rev. E. A. Baldwin and several others. A child of Samuel Taylor was taken to Moravia, and it is stated that two deaths have resulted from infection there; the nurse, Ella Secour, and a relative, Mrs. Elmer E. Sakey, of Homer. On the whole it seems as if the disease in the village has been allowed to spread for want of proper supervision, disinfection and quarantine. I visited a patient with Dr. Miles D. Goodyear, and have no doubt that the disease is diphtheria.

I advised the formation of a village board of health, cleanliness, emptying sewers below the dam, and the discontinuance of slop sewerage into the race.

I have no idea, however, that any of these recommendations will be carried out. I would, therefore, respectfully advise that the State Board of Health exercise the power given it by section 11, of article 1, chapter 661, Laws of 1893, as it seems to me the situation is of sufficient importance to warrant it.

R. P. BUSH,
*Chief Inspector First Division.*

ALBANY, *October* 30, 1893.

To A. M. BALDWIN, M. D., *Health Officer, Groton, Tompkins Co., N. Y.:*

Sir.— Your attention is called to the enclosed report of Dr. R. P. Bush, chief inspector first sanitary division, on the sanitary condition of the village of Groton and the outbreak of diphtheria now existing there, and you are requested to lay it before the board of health for its consideration and action.

It is understood by this department the board of health of the village is combined with that of the town, certain members of the town board having been appointed the village board of health. While this combination is one whereby less expense for health service may be incurred, it does not relieve the combined board from any responsibility for the protection of the public health.

The board should, therefore, pay immediately attention to the sanitary conditions as stated to exist in Dr. Bush's report, and

take active measures for the proper suppression of the outbreak of diphtheria now present.

It is noticed Dr. Bush says the diagnosis is questioned, it being considered by some that the disease is membranous croup instead of diphtheria. As far as that question goes, it makes no difference, for if the disease is spreading the board of health should take the necessary precautions to control it no matter whether it may be considered contagious or not. The board's plain and bounden duty is to protect the public health and it negects that duty if it allows any disease, no matter what the nature of the disease may be considered by others, to become an epidemic and threaten the health of the people.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

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OFFICES OF DR. JACOB GOLDBERG,
BUFFALO, N. Y., *October* 16, 1893.

To LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.:*

My Dear Sir.—Pursuant to instructions, I herewith make report, as local inspector for Buffalo:

I have consulted with Dr. E. Wende, health commissioner for Buffalo, and find that every avenue through which contagious diseases could enter the city is carefully and efficiently guarded. I mean thereby, that the United States marine authorities, acting in conjunction with the local authorities, have, through inspectors, placed at the various depots to inspect all emigrants who come into, or go through, the city, as to their condition; and as to whether or not they have a clean "bill of health," and that the same was issued by the proper authorities. The marine department has placed two (2) physicians at Niagara Falls to inspect all trains coming through Canadian territory to this country. The inspectors note their condition physically; and also the condition of their baggage, and their "bill of health."

The marine authorities have also appointed four (4) physicians, whose duty it will be, should occasion arise, to accompany any

emigrant to his place of destination and watch him until such time as he shall consider him safe, as far as contagion is concerned.

The board of health of Buffalo has appointed four (4) physicians to inspect all trains coming into Buffalo, as to emigrants, and their condition, bill of health, etc.; two (2) of which above-mentioned inspectors do duty in inspecting the "excursion boats," which leave Buffalo and touch Canadian shore, and where there is a chance of their getting in this country. The parts of Canada which our excursion boats touch, and through which emigrants can enter, are, viz.: Fort Erie, Fort Erie Beach, Crystal Beach and Port Colborne, Canada.

There are at present no contagious diseases, other than those which all cities have (not epidemic), such as the zymotic fevers and the like.

All of which is respectfully submitted.

JACOB GOLDBERG, M. D.,
*Inspector.*

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## INSPECTION OF LANE'S DOCK, FORT HAMILTON, KINGS COUNTY.

This is an enclosure about 500 by 500 feet, with docks on three sides, and the roadway on the fourth.

In the southern dock there is an opening of about fifty feet, through which the tide water enters the enclosure.

About two-thirds of the space enclosed by the docks is filled in with good dirt, free from garbage of any description, and over which no tide water ever flows.

I do not consider this place a nuisance, and advise no further action in the matter. The attacks on the health board are untrue and unwarranted.

It is the opinion of the inspector that these complaints have been made, hoping that the owners would be forced to fill the inclosure, which would greatly improve the appearance of the place and increase the value of the surrounding property.

I have made several visits to this place on different days, and when the tide was both high and low, and found no odor, except that noticeable along any salt-water shore.

Respectfully, your obedient servant.

C. A. BARNETT,
*Chief Divisional Inspector.*

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ROSENDALE, N. Y., *August* 3, 1893.

*State Board of Health, Albany, N. Y.:*

Learning that a number of physicians have been engaged by your Board to inspect various parts of the State and report sanitary conditions, etc., I am instructed by our local board to ask you to appoint one to come to this town (without expense to the town) and advise me as to what ought to be done with a swamp that has caused malaria to exist here for the last forty years. The Wallkill Valley railroad divides the swamp into two nearly equal parts of which one part lies mostly within the property of the Lawrence Cement Co., and the other on the property of the Newark & Rosendale Cement Co. Now these companies would no doubt, refuse to do anything towards filling up unless compelled to by law, as it would cost some thousands of dollars to fill in and drain. Can you send one versed in the legal aspect of such questions? and I shall be happy to show him, not only the places in question, but any and all points that he might in his official capacity wish to examine. This is a question of deep interest to the inhabitants of this town, and I hope your honorable body will give it the attention which it deserves.

Very sincerely.

PATRICK HAYDEN, M. D.,
*Health Officer.*

ALBANY, *August* 7, 1893.

To PATRICK HAYDEN, M. D., *Health Officer, Rosendale, Ulster Co., N. Y.:*

Sir.—In reply to your letter of August third, I would state that I have sent a copy of your letter to Dr. Pearce, chief inspector of the fifth division, with the request that he proceed to

Rosendale to advise with you concerning the matter about which you write.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

ALBANY, *August* 7, 1893.

To Dr. HARRY PEARCE, *Chief Inspector of the Fifth Division, Albany, N. Y.:*

Sir.— Inclosed is a copy of a letter received on Saturday from the health officer of Rosendale, Ulster county. I would respectfully request that you visit Rosendale and give Dr. Hayden what advice you can in the matter, reporting the facts in the case to this department.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

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## SWAMPS AT ROSENDALE, ULSTER COUNTY.

These swamps were visited on August twenty-fifth, in company with Dr. Patrick Hayden, health officer of the town of Rosendale. We found a low marsh land, covered with shallow, stagnant water, and filled with marsh grass and weeds. The land covers an area of about eight (8) acres, and is divided by the Wallkill Valley railroad. The two divisions are connected by a culvert, placed in a wrong position to efficiently drain the upper into the lower division. The outlet is a mere apology, entirely too small and too poorly constructed to drain the land about it.

The water is mostly pumped into the swamp from the quarries of the cement companies, which surround it; some water undoubtedly comes from springs.

The families of the laborers in the quarries live on the border of this swamp, and aside from the swamp their surroundings are vile. Pigs, chickens, goats and people live almost together. There is no doubt in my mind that the malaria which

has been so prevalent among them for a number of years is caused by the foul, miasmatic atmosphere created by this swamp. Whether the malaria in the village of Rosendale, three miles distant, has the same source is a question. Probably, however, this swamp is the source of the malarial infection for a very large area.

Tons of chink and cinders are daily produced by the several cement companies, in quarrying and working their cement rock, and with such an abundance of this material on hand, the bed of the swamp, if exposed, could be quickly and properly covered. The expense of draining it would not, in my judgment, be great.

The advisability of some action on the part of these companies to render this place less foul and innoxuous, is evident. If not alone for the benefit of their employes, but furthermore for the greater benefit of a large community; these concerns, the Lawrence and the Rosendale cement companies, should be compelled, if possible, to properly drain and fill in this unhealthy marsh.

H. SEYMOUR PEARSE,
*Inspector.*

ROSENDALE, *October* 28, 1893.

*To the State Board of Health:*

The report of Dr. H. Seymour Pearce was submitted to the board of health at its last meeting, but as it was somewhat indefinite, no action was taken till a more comprehensible explanation was received from your Board. Dr. Pearce said, in my hearing, that the water was fair drinking water, as found in the quarries at Hickory Bush. There was a scarcity of water during the dry period, and the Lawrence Cement Company, through its vice-president, Mr. McMurty, promised me that the company would consider the advisability of sinking a well for their tenants, who are their workmen. Now, however, that need does not exist, and I have not urged the matter since. I don't know what is meant when it says "garbage fed to stock."

Our next meeting will be on Wednesday, November eighth, and we would like to know the legal aspects relating to swamp

at Hickory Bush. Dr. Pearce said he would lay the matter before the Attorney-General of the State, and your Board would advise us accordingly. We don't know whether or not the Lawrence and Newark and Rosendale cement companies could be compelled to drain these swamps. I shall, however, lay before these companies the last communication, dated October twenty-third instant, and see what the officials will say. It is a difficult and costly matter to drain the swamps, but if once drained they could be filled comparatively easy by cinders and chink. That on the property of the Newark and Rosendale company is now almost dry, as I had a natural outlet cleaned as far as possible. The swamp on the property of the Lawrence company is quite full of water, although the culvert was cleaned by the company at my suggestion. I mean the culvert that leads the water to the other swamp. I heard that Mr. Geo. S. Coutant said he would drain these swamps for $1,500 (fifteen hundred dollars), and if that is so, could our board compel the companies or the town of Rosendale to spend that amount in doing it? Now, Mr. Coutant was vice-president for some years of the Lawrence company, and its superintendent in Hickory Bush about forty-five years, and he knows what he is talking about. Any further instructions from the State Board of Health will be put before our board and receive due consideration.

P. HAYDEN,
*Health Officer.*

ALBANY, *October* 30, 1893.

To P. HAYDEN, M. D., *Health Officer, Rosendale, N. Y.:*

Sir.— Your letter of the twenty-eigth with reference to the report of Dr. H. Seymour Pearse, sanitary inspector, was received to-day. The matter will be laid before the State Board at its next meeting.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

ALBANY, *November* 24, 1893.

To PATRICK HAYDEN, M. D., *Health Officer, Rosendale, N. Y.:*

Sir.—In accordance with the instructions of the Board, given at its meeting last Friday, the seventeenth instant, that the secretary reply to your request concerning the Hickory Bush swamp and what power the local board of health has to direct measures for its abatement or relief, I would state as follows:

If the swamp is a natural one, and not created by human agency, even though it may be a cause of disease, the local board of health would not have power or authority to order drainage or other methods for its reclaiming to be taken as the owners are not responsible for the acts of nature in creating the swamp.

If, however, the swamp is caused by the railroad crossing it and the quarry companies bordering on it, in other words, by human agency, the board of health would have the power to direct those parties, making the swamp, to abate the same. How much of this swamp is due to nature and how much to human agency, is a matter left entirely for you to decide. It is not well for a board of health to issue an order which it could not enforce through the courts, supposing the maintainer of the nuisance requiring the order refuse to obey it. While the board could in this case issue an order against the railroad and the quarry owners to drain the swamp, it is very questionable if they could have enforced such an order were they to take it to court.

Before advising further, I would request more particular statements from you on the points above quoted. If after your further report there is a probable chance the Board would have proper jurisdiction; I will gladly advise what steps had better be taken by it.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

# RULES AND REGULATIONS

FOR THE

# Sanitary Protection of Water Supplies.

# RULES AND REGULATIONS.

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DEPARTMENT OF PUBLIC WORKS,
COMMISSIONERS' OFFICE, 31 CHAMBERS STREET,
NEW YORK, *June* 27, 1893.

Hon. THOMAS NEWBOLD, *President State Board of Health:*

Dear Sir.—The chief engineer of the Croton aqueduct expresses the view, in which I concur, that the present regulations of your Board, approved March 26, 1889, are not sufficiently concise and definite in regard to the distances from reservoirs, lakes, ponds and water-courses tributary to the city's water supply at which houses, barns, barn-yards, privies, cesspools, cemeteries and other concerns which tend to contaminate the water, are permissible.

It is very desirable that more exact and concise rules be adopted by your Board in such manner that they can be plainly understood by the population in the water-sheds which are tributary to this city's water supply, and in order that the objects of the act of this year for the better protection and purification of the water supply may be promptly enforced. I therefore respectfully ask that your Board will adopt such new rules and regulations.

Very respectfully.

MICHAEL T. DALY,
*Commissioner of Public Works.*

ALBANY, *June* 30, 1893,

To MICHAEL T. DALY, Esq., *Commissioner of Public Works*, 31 *Chambers street, New York city, N. Y.:*

Sir.—Yours of the twenty-seventh instant requesting that certain changes be made in the rules formulated by this depart-

ment for the protection of the Croton water-shed was received this date.

The matter will be laid before the Board at its next meeting.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

STATE BOARD OF HEALTH,
*August* 11, 1893.

DR. FLORENCE O. DONOHUE, *President State Board of Health:*

Sir.— Your committee to consider changes in the rules of the State Board of Health for the protection of the Croton water shed, beg leave to respectfully report, as follows:

We have carefully considered the matter in question, and find it very difficult to decide on any hard and fast limits as to the distance that the sources of pollution should be removed from the water courses. The character of the soil, the angle of the slope and the character of the substrata must all be considered. Taking these into consideration, we would respectfully recommend that at least 300 feet should be the minimum distance required from rivers, lakes, reservoirs and ponds. In the case of streams, the distance should be at least 250 feet; in the case of rivulets, 200 feet; and, in the case of springs, 150 feet. Within the aforesaid distance no source of pollution whatever should be permitted. Where the angle of the slope toward the water is very acute these distances should be extended, and in such cases should be considered and treated separately.

We have the honor to be, respectfully yours.

WM. T. JENKINS.
MAURICE PERKINS.
CYRUS EDSON.

ments to the Rules and Regulations for the Sanitary
ection of the Croton river and its tributaries in the
ties of Westchester, Putnam and Dutchess, and of so
ı of the Bronx and Byram rivers and their tributaries
e now used for the supply of water for the city of
York.

State Board of Health, at a meeting held in the city of
ork, on the 25th day of August, 1893, a quorum being
, did then and there, after having heard the report of a
tee of the Board duly appointed for the purpose of
ation into the subject, which committee was appointed at
ng of the board held in the city of Albany, the 27th day
, 1893, at which meeting a quorum was present, amend
er the rules made by it for the sanitary protection of
ton river and its tributaries in the counties of West-
Putnam and Dutchess, and of so much of the Bronx and
rivers and their tributaries as are now used for the
of water for the city of New York, in accordance with
der the provisions of article V, of chapter 661, of the
f 1893, in the following particulars, to wit:

taking into consideration the character of the soil and
ubstrata of the soil and the angle of slopes, the distance
h privy vaults, slaughter-houses, hog pens, barnyards, or
l all places or things which tend to pollute and render
and dangerous water taken from the several sources
ated and set forth in said rules, may be maintained, is
ed to 300 feet, horizontal measurement, of the high-water
any lake, pond or reservoir in said watershed, and to 250
rizontal measurement, of the high-water mark or precipi-
nk of any spring, stream or water course tributary to said
onds or reservoirs.

oved August 25, 1893.

F. O. DONOHUE, M. D.,
*President.*

LEWIS BALCH, M. D.,
*Secretary and Executive Officer.*

72 BROADWAY, NEW YORK, *October* 31, 1892.

*State Board of Health, Albany, N. Y.:*

Gentlemen.—I have your favor of the twenty-ninth inst., with enclosures as stated, and note contents. The New York City Suburban Water Company, which supplies water to Mount Vernon, in this State, is building a new reservoir, which is supplied by "Tom Paine brook." This reservoir is located in Westchester county, about one and one-half miles from New Rochelle. The company desires your Board to make the necessary examination and rules for the protection of the watershed tributary to "Tom Paine brook." At present there is nothing in this watershed to contaminate this supply, but these rules are desired by the company for the purpose of preventing future contamination.

Yours truly.

WM. B. HORD,
*Attorney.*

ALBANY, *November* 1, 1892.

To WILLIAM B. HORD, Esq., *Attorney and Counselor at Law, 72 Broadway, New York city, N. Y.:*

Sir.—In reply to yours of the thirty-first, an officer from this Board will inspect the "Tom Paine brook" and report recommendations for rules governing its water supply, the latter to be laid before the Board.

The expense of publishing the rules, in accordance with the law, will be sent to you for settlement.

Very respectfully, your obedient servant,

LEWIS BALCH,
*Secretary.*

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## Rules and Regulations for the Sanitary Protection of the reservoirs and tributaries thereto of the water supply of the city of Mount Vernon, drawn from "Tom Paine" brook and belonging to the New York City Suburban Water Company.

Privies adjacent to reservoirs, springs or water courses.

First. No privy or place for the deposit or storage of human excreta shall be constructed, located or maintained within fifty feet, horizontal measurement, of the high-water mark or

tous bank of any reservoir, spring, stream, ditch or water
of any kind, the water of which, when running, flows
ally into a reservoir of the New York City Suburban
Company, upon "Tom Paine" brook, forming a part of
able water supply of the city of Mount Vernon.

nd. No privy vault, pit or cesspool, or non-transportable
icle of any kind, for the reception or storage of human
, shall be constructed, located or maintained within 250
orizontal measurement, of the high-water mark or pre-
s bank of any reservoir, or within 130 feet, horizontal
ement, of the high-water mark or precipitous bank of any
stream, ditch or water course of any kind, the water of
when running, flows eventually into a reservoir of the
ork City Suburban Water Company, as above described.

l. Every privy or place for the deposit of human excre-
which is constructed, located or maintained between the
id limits of fifty and 250 feet, horizontal measurement, of
gh-water mark or precipitous bank of any reservoir, or
et and 130 feet, horizontal measurement, of the high-water
r precipitous bank of any spring, stream, ditch or water
of any kind, the water of which, when running, flows
ally into a reservoir of the New York City Suburban
Company, as above described, and from which the excre-
s not at once removed automatically, by means of suitable
ight pipes or conduits to some place of disposal beyond
ximum aforesaid limit, shall be arranged in such manner
l such excreta shall be received and temporarily retained
able vessels or receptacles, which shall at all times be
ined in an absolutely water-tight condition, and which
mit of convenient removal to some place of ultimate dis-
eyond the said maximum limits.

th. The excreta collected in the aforesaid removable recep-
shall be removed and the receptacles cleansed and deodor-
often as is necessary to keep the receptacles in proper
y condition, and to prevent an overflow of the excreta
he soil or the floor of said privy.

Fifth. The excreta so collected shall be removed in such manner as to cause the least nuisance possible, and shall be so disposed of that they can not be washed, either over the surface or through the subsoil, into any reservoir, spring, stream, ditch or water course of any kind, the water of which, when flowing, runs finally into a reservoir of the New York City Suburban Water Company, as above described, and shall be so placed as not to cause an offensive nuisance.

Sixth. Whenever it shall be found that, owing to the porous character of the soil, the height and flow of the surface or subsoil waters, the steepness of the slopes, or other special conditions of the locality, the excremental matter from any privy, cesspool or other receptacle for human excreta may be washed over the surface or through the subsoil into a reservoir or any spring, stream, ditch or water-course aforesaid, without having been thereby in the judgment of the State Board of Health sufficiently purified, then the said privy, cesspool or other receptacle for human excreta shall, after due notice to the owner thereof, be removed to such greater distance from said high-water marks as shall be considered safe and proper by the State Board of Health. These rules shall not be applicable to property lying wholly below the ordinary water level of the lowest reservoir, provided that, in the judgment of the State Board of Health, no pollution of the water of the reservoir from such property is possible.

House slops, sink wastes, laundry water and other similar sewage.

Seventh. No sewage, house slops, sink wastes, water in which milk cans, clothes or bedding have been washed or rinsed, nor any other polluted water or liquid shall be thrown or discharged directly into a reservoir, or into any spring, stream, ditch or water course aforesaid, nor shall any such aforesaid liquid or solid matter or other polluted liquid be thrown or discharged upon the surface of the ground or into the ground below the surface in any manner whereby the same may flow into any reservoir, spring, stream, ditch or water course aforesaid, within

fifty feet, horizontal measurement, of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course aforesaid.

Eighth. No clothing, animals, vehicles, nor anything which pollutes water shall be washed, nor shall any person bathe in any reservoir, spring, stream, ditch or water course aforesaid.

### Garbage and refuse.

Ninth. No garbage or putrescible refuse of any kind shall be thrown or discharged directly into any reservoir, spring, stream, ditch or water course aforesaid, nor shall any such substances be placed upon or below the surface of the ground where they may be washed into any reservoir, spring, stream, ditch or water course aforesaid, within fifty feet of the high-water mark or precipitous bank thereof.

### Manures, composts and similar matter.

Tenth. No stable, pigsty, henhouse, barnyard, hog or duck-yard, hitching or standing place for horses or cattle, watering place for animals, or other place where animal manure accumulates, and no compost or manure heap shall be located or maintained within, or so arranged and maintained that the washings or drainings therefrom shall flow through open or covered drains within fifty feet of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course aforesaid.

Eleventh. No human excreta or compost containing human excreta shall be spread upon the ground within 250 feet of high-water mark or precipitous bank of a reservoir, or within 130 feet of the high-water mark or precipitous bank of any spring, stream, ditch or water course aforesaid, and no manures or composts of any kind shall be deposited so as to be washed a less distance than fifty feet over the surface or through the subsoil into any reservoir, spring, stream, ditch or water course aforesaid, without having undergone proper purification.

Dead animals, vegetable refuse and manufacturing wastes.

Twelfth. No dead animal, bird, fish or part thereof, nor any filthy or impure matter, nor any decayed fruit or vegetable substance, nor any waste products, putrescible matter or polluted waters from any slaughter-house, dairy, creamery, cider mill or other manufactory shall be thrown or allowed to run into any reservoir, spring, stream, ditch or water course aforesaid, nor shall they be so deposited that any portion thereof or of the polluted drainage therefrom shall be washed on the surface or less than fifty feet through the subsoil, into any reservoir, spring, stream, ditch or water course aforesaid, without having undergone proper purification.

Thirteenth. No interment of a human body shall be made within 250 feet of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course aforesaid.

## Management of the reservoirs.

Fourteenth. The reservoirs of the New York City Suburban Water Company shall not be unnecessarily drawn down during the warm months, but shall be kept as deep and as nearly at a uniform level as possible, to prevent the pollution of the water with dead organic matter.

Fifteenth. No filter or screen shall be used when in a filthy condition and liable to pollute the water in the mains; and no filter or screen shall be used at the head of the main which can not be constantly examined and cleaned.

## Penalty.

In accordance with section 2 of chapter 543 of the Laws of 1885, a penalty of fifty dollars is hereby imposed upon any corporation, person or persons, guilty of a violation of, or non-compliance with any of the above given mandatory rules and regulations; to be recovered under said act.

At a meeting of the State Board of Health, held on the 11 of January, 1893, at Murray Hill Hotel, in the city of New Yor the foregoing rules and regulations were made, ordained a established, pursuant to chapter 543 of the Laws of 1885, f

the sanitary protection of the reservoirs and tributaries thereto of the New York City Suburban Water Company on "Tom Paine" brook, in the county of Westchester, being a portion of the water supply system of the city of Mount Vernon.

THOMAS NEWBOLD,
*President.*

LEWIS BALCH, M. D.,
*Secretary and Executive Officer.*

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## Rules and Regulations for the Sanitary Protection of the Reservoirs and Tributaries thereto of the Water Supply of the City of Newburgh, N. Y.

### Privies adjacent to reservoirs, springs and water courses.

First. No privy or place for the deposit or storage of human excreta shall be constructed, located or maintained within fifty feet, horizontal measurement, of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course of any kind, the water of which, when running, flows eventually into a reservoir of the Newburgh city water supply.

Second. No privy vault, pit or cesspool, or non-transportable receptacle of any kind for the reception or storage of human excetra, shall be constructed, located or maintained within 250 feet, horizontal measurement, of the high-water mark or precipitous bank of any reservoir, or within 130 feet, horizontal measurement of the high-water mark or precipitous bank of any spring, stream, ditch or water course as aforesaid.

Third. Every privy or place for the deposit of human excrement which is constructed, located or maintained between the aforesaid limits of fifty feet and 250 feet, horizontal measurement, of the high water-mark or precipitous bank of any reservoir, or fifty feet and 130 feet, horizontal measurement, of the high-water mark or precipitous bank of any spring, stream, ditch or water course as aforesaid, and from which the said excrement is not removed automatically, by means of suitable water-tight

pipes or conduits to some proper place of disposal beyond the maximum aforesaid limit shall be arranged in such manner that all said excreta shall receive and temporarily retain in suitable vessels or receptacles, which shall at all times be maintained in an absolutely water-tight condition, and which will admit of convenient removal to some place of ultimate disposal beyond the said maximum limits.

Fourth. The excreta collected in the aforesaid removable receptacles shall be removed and the receptacles cleansed and deodorized as often as is necessary to keep the receptacles in proper sanitary condition and to prevent an overflow of the excreta upon the soil or the floor of said privy.

Fifth. The excretia so collected shall be so removed as to cause the least nuisance possible, and shall be so disposed of that they can not be washed either over the surface or through the subsoil into any reservoir, spring, stream, ditch or water course of any kind as aforesaid, and shall be so placed as not to cause an offensive nuisance.

Sixth. Whenever it shall be found that, owing to the porous character of the soil, the height and flow of surface and subsoil waters, the steepness of the slopes, or other special conditions of the locality, the excremental matter from any privy, cesspool or other receptacle for human excreta may be washed over the surface or through the subsoil into a reservoir or any spring, stream, ditch, or water course aforesaid, without having been thereby, in the judgment of the State Board of Health, sufficiently purified, then the said privy, cesspool or other receptacle for human excreta shall, after due notice to the owner thereof, be removed to such greater distance from said high-water marks as shall be considered safe and proper by the State Board of Health.

## House slops, sink wastes, laundry water and other similar sewage.

Seventh. No sewage, house slops, sink wastes, water in which milk cans, clothes or bedding have been washed or rinsed, nor any other polluted water or liquid shall be thrown or discharged directly into a reservoir or into any spring, stream, ditch or

ter course aforesaid, nor shall any such aforesaid liquid or id matter or other polluted liquid be thrown or discharged on the surface of the ground or into the ground below the sur-e in any manner whereby the same may flow into any reser-r, spring, stream, ditch or water course aforesaid, within fifty t horizontal measurement, of the high-water mark or precipi-is bank of any reservoir, spring, stream, ditch or water course resaid.

Eighth. No clothing, animals, vehicles, nor anything which lutes water shall be washed, nor shall any person bathe in y reservoir, spring, stream, ditch, or water course aforesaid, shall any cattle, horses, sheep, swine or other animals be owed to enter, wallow or stand in any reservoir, lake, spring, eam, ditch or water course of any kind, the water of which, en running, flows eventually into a reservoir of the Newburgh y water supply.

Ninth. No garbage or putrescible refuse of any kind shall be own or discharged directly into any reservoir, spring, stream, ch, or water course aforesaid, nor shall any such substances placed upon or below the surface of the ground where they y be washed into any reservoir, spring, stream, ditch or ter course aforesaid, within fifty feet of the high-water mark precipitous bank thereof.

## Manure, composts and similar matter.

Tenth. No stable, pigsty, henhouse, barnyard, hog or duck-rd, hitching or standing place for horses or cattle, or other ace where animal manure accumulates, and no composts or nure heap shall be located or maintained within 100 feet of, r shall they or any watering place for horses or cattle be so anged that the polluted drainings therefrom shall flow into y lake, stream, ditch, water course or reservoir from which e water supply of the city of Newburgh or any part thereof is tained, nor shall such drainings be allowed to flow through en or covered drains within fifty feet of the high-water mark precipitous bank of any reservoir, spring, stream, ditch or ter course aforesaid.

Eleventh. No human excreta or compost containing human excreta shall be spread upon the ground within 250 feet of the high-water mark or precipitous bank of a reservoir, or within 130 feet of the high-water mark or precipitous bank of any spring, stream, ditch or water course aforesaid, and no manures or composts of any kind shall be deposited so as to be washed a less distance than fifty feet over the surface or through the subsoil into any reservoir, spring, stream, ditch or water course aforesaid, without having undergone proper purification.

### Dead animals, vegetable refuse, and manufacturing wastes.

Twelfth. No dead animal, bird or fish or part thereof, nor any filthy or impure matter, nor any decayed fruit or vegetable substance, nor any waste products, putrescible matter or polluted waters from any slaughter-house, dairy, creamery, cider mill, sawmill or other manufactory shall be thrown or allowed to run into any reservoir, spring, stream, ditch or water course aforesaid, nor shall they be so deposited that any portion thereof or of the polluted drainage therefrom shall be washed on the surface or less than fifty feet through the subsoil into any reservoir, spring, stream, ditch or water course aforesaid, without having undergone proper purification.

Thirteenth. No interment of a human body shall be made within 250 feet of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course aforesaid.

### Management of the reservoirs.

Fourteenth. The reservoirs of the Newburgh city water supply shall not be unnecessarily drawn down during the warm months but shall be kept as deep and as nearly at a uniform level as possible, to prevent the pollution of the water with dead organic matter.

Fifteenth. No filter or screen shall be used when in a filthy condition and liable to pollute the water in the mains; and no filter or screen shall be used at the head of the main which can not be constantly examined and cleaned.

At a regular meeting of the State Board of Health held on the 7th day of July, 1893, at the Capitol, in the city of Albany, the oregoing rules and regulations were made, ordained and estabshed, pursuant to chapter 661 of the Laws of 1893, for the nitary protection of the reservoirs and tributaries thereto of ie water supply of the city of Newburgh.

F. O. DONOHUE, M. D.,
*President.*

LEWIS BALCH, M. D.,
*Secretary and Executive Officer.*

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**ules and Regulations for the Sanitary Protection of the Reservoirs and Tributaries thereto of the Water Supply of the Village of Ilion, N. Y.**

**rivies adjacent to reservoirs, springs or water courses.**

First. No privy or place for the deposit or storage of human xcreta shall be constructed, located or maintained within fifty eet, horizontal measurement, of the high-water mark or preipitous bank of any reservoir, spring, stream, ditch or water ourse of any kind the water of which, when running, flows ventually into a reservoir of the Ilion public water supply.

Second. No privy vault, pit or cesspool, or non-transportable eceptacle of any kind for the reception or storage of human xcreta shall be constructed, located or maintained within 250 eet, horizontal measurement, of the high-water mark or preipitous bank of any reservoir, or within 130 feet, horizontal easurement, of the high-water mark or precipitous bank of ny spring, stream, ditch or water course as aforesaid.

Third. Every privy or place for the deposit of human excreta hich is constructed, located or maintained between the aforeaid limits of fifty and 250 feet, horizontal measurement, of the igh-water mark or precipitous bank of any reservoir, or fifty nd 130 feet, horizontal measurement, of the high-water mark r precipitous bank of any spring, stream, ditch or water course s aforesaid, and from which the said excrement is not at once

removed automatically, by means of suitable water-tight pipes or conduits to some proper place of disposal beyond the maximum aforesaid limit, shall be arranged in such manner that all said excreta shall be received and temporarily retained in suitable vessels or receptacles, which shall, at all times, be maintained in an absolutely water-tight condition, and which will admit of convenient removal to some place of ultimate disposal beyond the said maximum limits.

Fourth. The excreta collected in the aforesaid removable receptacles shall be removed and the receptacles cleansed and deodorized as often as is necessary to keep the receptacles in proper sanitary condition and to prevent an overflow of the excreta upon the soil or floor of said privy.

Fifth. The excreta so collected shall be so removed as to cause the least nuisance possible, and shall be so disposed of that they can not be washed either over the surface or through the subsoil into any reservoir, spring, stream, ditch or water course of any kind as aforesaid, and shall be so placed as not to cause an offensive nuisance.

Sixth. Whenever it shall be found that, owing to the porous character of the soil, the height and flow of surface and subsoil waters, the steepness of the slopes, or other special conditions of the locality, the excremental matter from any privy, cesspool or other receptacle for human excreta may be washed over the surface or through the subsoil into a reservoir or any spring, stream, ditch or water course aforesaid without having been thereby, in the judgment of the State Board of Health, sufficiently purified, then the said privy, cesspool or other receptacle for human excreta shall, after due notice to the owner thereof, be removed to such greater distance from said high-water marks as shall be considered safe and proper by the State Board of Health.

## House slops, sink wastes, laundry water and other similar sewage.

Seventh. No sewage, house slops, sink wastes, water in which milk cans, clothes or bedding have been washed or rinsed, nor any other polluted water or liquid shall be thrown or discharged

directly into a reservoir or into any spring, stream, ditch or water course aforesaid, nor shall any such aforesaid liquid or solid matter or other polluted liquid be thrown or discharged upon the surface of the ground or into the ground below the surface in any manner whereby the same may flow into any reservoir, spring, stream, ditch or water course aforesaid, within fifty feet, horizontal measurement, of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course aforesaid.

Eighth. No clothing, animals, vehicles, nor anything which pollutes water, shall be washed, nor shall any person bathe in any reservoir, spring, stream, ditch or water course aforesaid.

Ninth. No garbage or putrescible refuse of any kind shall be thrown or discharged directly into any reservoir, spring, stream, ditch or water course aforesaid, nor shall any such substances be placed upon or below the surface of the ground where they may be washed into any reservoir, spring, stream, ditch or water course aforesaid, within fifty feet of the high-water mark or precipitous bank thereof.

### Manures, composts and similar matter.

Tenth. No stable, pigsty, henhouse, barnyard, hog or duck-yard, hitching or standing place for horses or cattle, or other place where animal manure accumulates, and no compost or manure heap shall be located or mantained within 100 feet of, nor shall they or any watering place for horses, cattle or other animals be so arranged that the polluted drainings therefrom shall flow into or through open or covered drains within fifty feet of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course aforesaid.

Eleventh. No human excreta or compost containing human excreta shall be spread upon the ground within 250 feet of the high-water mark or precipitous bank of a reservoir, or within 130 feet of the high-water mark or precipitous bank of any spring, stream, ditch or water course aforesaid, and no manures or composts of any kind shall be deposited so as to be washed a less distance than fifty feet over the surface or through the

subsoil into any reservoir, spring, stream, ditch or water course aforesaid, without having undergone proper purification.

**Dead animals, vegetable refuse and manufacturing wastes.**

Twelfth. No dead animal, bird or fish or part thereof, nor any filthy or impure matter, nor any decayed fruit or vegetable substance, nor any waste products, putrescible matter or polluted waters from any slaughter-house, dairy, creamery, cider mill, sawmill or other manufactory shall be thrown or allowed to run into any reservoir, spring, stream, ditch or water course aforesaid, nor shall they be so deposited that any portion thereof or of the polluted drainage therefrom shall be washed on the surface or less than fifty feet through the subsoil, into any reservoir, spring, stream, ditch or water course aforesaid, without having undergone proper purification.

Thirteenth. No interment of a human body shall be made within 500 feet of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course aforesaid.

## Management of the reservoirs.

Fourteenth. The reservoirs of the Ilion public water supply shall not be unnecessarily drawn down during the warm months, but shall be kept as deep and as nearly at a uniform level as possible, to prevent the pollution of the water with dead organic matter.

Fifteenth. No filter or screen shall be used when in a filthy condition and liable to pollute the water in the mains; and no filter or screen shall be used at the head of the main which can not be constantly examined and cleaned.

## Penalty.

In accordance with section 70 of chapter 661 of the Laws of 1893, a penalty of fifty dollars is hereby imposed upon any corporation, person or persons guilty of a violation of or non-compliance with any of the above given mandatory rules and regulations, to be recovered under the said act.

At a quarterly meeting of the State Board of Health, held on the 17th day of November, 1893, at Murray Hill Hotel, in the city of New York, the foregoing rules and regulations were made, ordained and established, pursuant to chapter 661 of the Laws of 1893, for the sanitary protection of the reservoirs and tributaries thereto of the water supply of the village of Ilion.

F. O. DONOHUE, M. D.,
*President.*

LEWIS BALCH, M. D.,
*Secretary and Executive Officer.*

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## Rules and Regulations for the Sanitary Protection of the Reservoirs and Tributaries thereto of the Water Supply of the Village of Fort Edward, N. Y.

### Privies adjacent to reservoirs, springs or water courses.

First. No privy or place for the deposit or storage of human excreta shall be constructed, located or maintained within fifty feet, horizontal measurement, of the high-water mark or precipitous bank of any reservoir, spring, stream, ditch or water course of any kind, the water of which, when running, flows eventually into a reservoir of the Fort Edward public water supply.

Second. No privy vault, pit or cesspool, or nontransportable receptacle of any kind for the reception or storage of human excreta, shall be constructed, located or maintained within 250 feet, horizontal measurement, of the high-water mark or precipitous bank of any reservoir, or within 130 feet, horizontal measurement, of the high-water mark or precipitous bank of any spring, stream, ditch or water course as aforesaid.

Third. Every privy or place for the deposit of human excrement which is constructed, located or maintained between the aforesaid limits of fifty and 250 feet, horizontal measurement, of the high-water mark or precipitous bank of any reservoir, or fifty and 130 feet, horizontal measurement, of the high-water mark or precipitous bank of any spring, stream, ditch or water course as aforesaid, and from which the said excrement is not at once removed automatically, by means of suitable water-tight

pipes or conduits to some proper place of disposal beyond the maximum aforesaid limit, shall be arranged in such manner that all said excreta shall be received and temporarily retained in suitable vessels or receptacles, which shall at all times be maintained in an absolutely water-tight condition, and which will admit of convenient removal to some place of ultimate disposal beyond the said maximum limit.

Fourth. The excreta collected in the aforesaid removable receptacles shall be removed and the receptacles cleansed and deodorized as often as is necessary to keep the receptacles in proper sanitary condition and to prevent an overflow of the excreta upon the soil or the floor of said privy.

Fifth. The excreta so collected shall be removed so as to cause the least nuisance possible, and shall be so disposed of that they can not be washed either over the surface or through the subsoil into any reservoir, spring, stream, ditch or water course of any kind as aforesaid, and shall be so placed as not to cause an offensive nuisance.

Sixth. Whenever it shall be found that, owing to the porous character of the soil, the height and flow of surface and subsoil waters, the steepness of the slopes, or other special conditions of the locality, the excremental matter from any privy, cesspool or other receptacle for human excreta may be washed over the surface or through the subsoil into a reservoir or any spring, stream, ditch or water course aforesaid, without having been thereby, in the judgment of the State Board of Health, sufficiently purified, then the said privy, cesspool or other receptacle for human excreta shall, after due notice to the owner thereof, be removed to such greater distance from said high-water marks as shall be considered safe and proper by the State Board of Health.

### House slops, sink wastes, laundry water and other similar sewage.

Seventh. No sewage, house slops, sink wastes, water in which milk cans, clothes or bedding have been washed or rinsed, nor any other polluted water or liquid shall be thrown or discharged

irectly into a reservoir or into any spring, stream, ditch or ater course aforesaid, nor shall any such aforesaid liquid or olid matter or other polluted liquid be thrown or discharged pon the surface of the ground or into the ground below the rface in any manner whereby the same may flow into any eservoir, spring, stream, ditch or water course aforesaid, within fty feet, horizontal measurement, of the high-water mark or recipitous bank of any reservoir, spring, stream, ditch or water ourse aforesaid.

Eighth. No clothing, animals, vehicles, nor anything which ollutes water shall be washed, nor shall any person bathe in ny reservoir, spring, stream, ditch or water course aforesaid, or shall any cattle, horses, sheep, swine, or other animals be llowed to enter, wallow or stand in any reservoir, spring, ream, ditch or water course aforesaid.

## Garbage and refuse.

Ninth. No garbage or putrescible refuse of any kind shall be rown or discharged directly into any reservoir, spring, stream, itch or water course aforesaid, nor shall any such substances e placed upon or below the surface of the ground where they ay be washed into any reservoir, spring, stream, ditch or ater course aforesaid, within fifty feet of the high-water mark r precipitous bank thereof.

## Manures, composts and similar matter.

Tenth. No stable, pigsty, henhouse, barnyard, hog or duck- ard, hitching or standing place for horses or cattle, or other lace where animal manure accumulates, and no compost or anure heap shall be located or maintained within 100 feet of, or shall they or any watering place for horses or cattle or other nimals be so arranged that the polluted drainings therefrom all flow into any reservoir, spring, stream, ditch or water ourse aforesaid, nor shall such drainings be allowed to flow rough open or covered drains within fifty feet of the high-water ark or precipitous bank of any reservoir, spring, stream, ditch water course aforesaid.

Eleventh. No human excreta or compost containing human excreta shall be spread upon the ground within 250 feet of the high-water mark or precipitous bank of a reservoir, or within 130 feet of the high-water mark or precipitous bank of any spring, stream, ditch or water course aforesaid, and no manures or composts of any kind shall be deposited so as to be washed a less distance than fifty feet over the surface or through the subsoil into any reservoir, spring, stream, ditch or water course aforesaid, without having undergone proper purification.

### Dead animals, vegetable refuse and manufacturing wastes.

Twelfth. No dead animal, bird or fish, or part thereof, nor any filthy or impure matter, nor any decayed fruit or vegetable substance, nor any waste products, putrescible matter or polluted waters from any slaughter-house, dairy, creamery, cider mill, sawmill or other manufactory shall be thrown or allowed to run into any reservoir, spring, stream, ditch or water course aforesaid, nor shall they be so deposited that any portion thereof or of the polluted drainage therefrom shall be washed on the surface or less than fifty feet through the subsoil into any reservoir, spring, stream, ditch or water course aforesaid, without having undergone proper purification.

Thirteenth. No interment of a human body shall be made within 500 feet of the high-water mark or precipitous bank of any reservoir spring, stream, ditch or water course aforesaid.

### Management of the reservoirs.

Fourteenth. The reservoirs of the Fort Edward public water supply shall not be unnecessarily drawn down during the warm months but shall be kept as deep and as nearly at a uniform level as possible, to prevent the pollution of the water with dead organic matter.

Fifteenth. No filter or screen shall be used when in a filthy condition and liable to pollute the water in the mains, and no filter or screen shall be used at the head of the main which can not be constantly examined and cleaned.

## Penalty.

In accordance with section 70 of chapter 661 of the Laws of 1893 a penalty of fifty dollars is hereby imposed upon any corporation, person or persons guilty of a violation of or noncompliance with any of the above given mandatory rules or regulations, to be recovered under the said act.

At a quarterly meeting of the State Board of Health held on the 17th day of November, 1893, at Murray Hill Hotel in the city of New York the foregoing rules and regulations were made, ordained and established, pursuant to chapter 661 of the Laws of 1893 for the sanitary protection of the reservoirs and tributaries thereto of the water supply of the village of Fort Edward.

F. O. DONOHUE, M. D.,
*President.*
LEWIS BALCH, M. D.,
*Secretary and Executive Officer.*

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## INSPECTION OF THE ABANDONED PRISM OF THE ERIE CANAL.

*April* 13, 1893.

Dr. LEWIS BALCH, *Secretary State Board of Health:*

Sir.— In accordance with your instructions I have made an inspection of the abandoned prism of the Erie canal in the town of Camillus, Onondaga county, of which complaint has been made. I beg to report as follows:

At the time of the improvement of the Erie canal, a number of years ago, its route at the locality under consideration was made more direct, and at this particular place the line of the former canal was abandoned, the present canal being constructed north of the former location. The abandoned prism of the former canal still remains very plain to the eye for a distance of about three miles in the town of Camillus. This abandoned prism south of the present canal extends about equal distances east and west from the bridge over the canal leading to

Warners on the direct line of the New York Central railroad between Rochester and Syracuse. The eastern part of this abandoned prism seems to drain sufficiently well into the new canal and a ditch, which I am informed was cut by the owners of adjacent property and which carries water in a rapid stream, also drains this abandoned prism into the new canal at a point about a mile east of the bridge above referred to.

A stream of considerable flow, coming from the south, carries the drainage of the abandoned prism into the new canal at a point about a mile west of the same bridge. This stream is called Bitter creek.

The portion of the abandoned prism between this ditch on the east and Bitter creek on the west, a distance of about two miles, is the subject of the complaint now under consideration.

This abandoned prism is entirely south of the present Erie canal, and its distance therefrom varies from about 200 feet to more than 1,000 feet. The northern bank of the old canal is generally continuous and well defined, and the prism is thus maintained in a condition to retain and back up water which may reach it. The present depth of water standing in the prism varies from a few inches to perhaps eighteen inches. It is not dry at any part of the prism for the length above mentioned.

This abandoned prism receives the drainage from the hilly country to the south. The hills are at places close to the old canal; at other points meadow and wet lands intervene. Much water is running into the old canal, but there is no current visible in it. The water probably passes from it largely by soakage into the land between it and the new canal. A road runs along the southerly side of the old canal, probably where the tow-path or berme formerly was. I am informed that at times this road is nearly impassable on account of the amount of water coming from the hills and retained by the old canal.

The property between the old and new canals is largely owned by the Empire Portland Cement Company. This land is underlaid with marl which is used by this company in the manufacture of cement. The works of the company are on the northern bank of the new canal just west of the bridge leading

ners. They are, therefore, in the center of the district
which the undrained old prism passes. I am informed
ployes of this company who live near the old canal lose
rable time from their work and this loss is ascribed by
malaria. Other residents in the vicinity make similar
nts.

claimed that the fee of the land covered by the old
as reverted to the owners of the adjacent property to
th and has been abandoned by the State.

informed that some time since the Empire Portland
Company engaged an engineer to make a survey of the
al prism and to take levels to ascertain how it could be
. He made the requisite observations, but before pre-
a formal report was taken suddenly ill and died. He,
r, had informed the manager of the company that it was
practicable to drain this prism by ditches connecting
e new canal, and had estimated as a maximum cost for
ainage the sum of $3,500.

also informed that the officers of this cement company,
ears ago, endeavored to arrange with the persons claim-
nership in the old canal prism, for some method to secure
ired drainage, but without success. It may be possible
ese persons hope to secure awards of damages from the
r the damp condition of this old prism. That seems the
planation of an unwillingness to aid in making suitable

ummarize: The abandoned prism of the former Erie
or a length of about two miles at the locality above
ed is now not drained sufficiently to relieve it from the
naturally flowing to it. It retains water to a depth of
ree to eighteen inches. There is no visible current. It
tedly would become stagnant and offensive in the hot

out an instrumental survey I can not present a plan for
ef, but I believe it can be drained by ditches cut in at
grades and connected at proper points with the present

Erie canal. For the construction of these ditches I think the estimate given by the cement company, as stated above, of $3,500 is probably a fair estimate. I think that it would be conducive to the health of that neighborhood to have this abandoned prism thus drained.

Very respectfully.

JOHN BOGART,
*Consulting Engineer.*

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## COMPLAINT OF IMPERFECT DRAINAGE IN TOWN OF ROTTERDAM.

*To the State Board of Health of the State of New York:*

Gentlemen.— The memorial of the undersigned residents, taxpayers and owners of real estate of the district hereinafter described, respectfully submit to your honorable body the following state of facts and the request for relief from the situation:

We are owners of houses and lots situated on what is called Kruesie avenue, in the town of Rotterdam, adjacent to the city of Schenectady, and lying near the plant of the Edison works, also of said town.

A severe freshet about two months ago, caused by a gorge in the Mohawk river, threw the water over the lands, owned by us in most cases, of sufficient depth to flood our floors many feet. On the withdrawal of the water, it was found that it did not materially decrease in front of our premises. Relief was afforded us so far as it could be done by the Delaware and Hudson Canal Company, and by the town of Rotterdam, in opening ditches under the railway and the street. But the remedy is insufficient for the trouble and now that all the water that can be removed by this means is drawn away, a stagnant pool, surrounding the doors of all our premises, averaging about three feet, and percolating into all our cellars, becoming, in the advancing season, every day fouler and more miasmatic, is dangerous to human life, and demands the immediate attention of the State authorities. This fact is well known to the town board of Rotterdam. The attention of some of its members has been repeat-

:alled by different people to the situation. We can cer-
say that it is positively known.
new board has been organized under the statute for about
'eeks, and nothing has been done.
l we believe that this memorial will meet with their appro-
ı. The situation is such that it needs a scientific engineer
;gest the proper way to remedy the danger. The situation
ıgerous, alarming, and we earnestly implore the immediate
ion of the State authorities.

J. A. MULFORD.
STEA. VALK.
PHILIP WARNER.
FRD. SCHOENRICH.
THOMAS DOWNS.
GEO. BOISJOBY.
WM. WIRTENBERG.
H. SCHUMAKER.
ISAAC NOLETT.

SCHENECTADY, N. Y., *May* 6, 1893.

BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.*;
r Sir.—I have the following report to make regarding
act of land in Rotterdam on Kruesi avenue and near that
, which we visited this morning, and which is now covered
water, and is complained of:
reason for the present condition of affairs is that the river
xceptionally high in March and flooded the whole area
the General Electric Company's works. The improve-
ı that have been in progress in the neighborhood have left
lots low and surrounded by lots filled to a considerable
, so that it has been impossible for the water left by the
to run off. Were the lots all filled to the same level, that
being that of the road, Kruesi avenue, there would be no
ıl trouble, as in that case the water brought in flood times
ı run off as the flood receded. The amount of water com-
ı the area in times of rain is not usually difficult to manage,
:re is no concentration of its flow. From inspection of the
d it seems that the water formerly drained from this terri-
through a ditch or water course which runs back of the

works, crossing the Delaware and Hudson River railroad, K
avenue and the branches of the railroad running to the wor
culverts, the lower one of which is almost filled up. The
verts under the road and railroad are not low enough to dra
the water from the lots above them. They would lower the
that was found to-day but one and two-tenths feet. There s
to be sufficient fall from the first culvert, under the Dela
and Hudson River railroad to the fourth under the farther
road branch, to carry off what water gets through the first
vert, but the present course of the ditch is too crooked a
too much obstructed to do its work properly.

My recommendations are, therefore, that the lots of w
complaint is made and all others which may give trouble at
time should be filled with clean earth to such a level that
will drain into artificial channels formed in the streets or a
the railroad, these channels to be given free outlet into
water course above described. The level of the filling sh
be about nineteen feet above city datum, low water in the r
Since it is probable that when floods recede a consider
amount of water will be left in the ground, drains should be
under the surface, through backs of lots or Delaware avenu
both, these drains to be at as low an elevation as possible
drain through the Delaware and Hudson and road culv
They will serve to drain out this ground water as soon as
sible after the flood recedes. From the point where the fi
stops and these drains discharge on the surface, the water co
should be straightened and cleaned, new culverts being pu
under the railroad branches in proper locations. Care shoul
taken to keep this ditch clean. To render the neighborhoo
Kruesi avenue as healthful as possible, these recommendat
should be applied to all lots on both sides of the avenue f
the city limits of Schenectady to the foot of the hill on w
there has been any stagnant water since the March flood.
present condition is a serious menace to health and the w
should be proceeded with at once.

Respectfully submitted.

CHAS. C. BROWN,

*Consulting Engineer*

## PROPOSED SITE FOR NEW SCHOOL-HOUSE AT NEW BALTIMORE.

NEW BALTIMORE, N. Y., *May* 22, 1893.

*To* LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.:*

Dear Sir.— We, the undersigned taxpayers and citizens of school district No. 10, town of New Baltimore, N. Y., would respectfully call your attention to the poor sanitary condition of the site which has been selected for the purpose of erecting thereon a public school building for the use of said town and district. The site alluded to is situated on ground that was formerly a low, unhealthy and dangerous miasmatic swamp, and although the place has been partially filled in, it is still seriously deleterious to the health of the place itself, as well as of the whole surrounding section. The ground being the lowest and most objectionable that could have been selected for a school site in the whole town. There is also no opportunity for obtaining pure water on the grounds for said school on account of its swampy and miasmatic nature. The object in selecting such a site could have only been in the interest of and aggrandizement of a few persons, otherwise the health of several hundred children of our town would not have been so wantonly ignored or the wishes of the taxpaying portion of our inhabitants so grossly misrepresented.

A. J. VAN DERPOEL.
JOHN B. MARSHALL.
DAVID D. BRONK.
LEONARD COLVIN.
J. W. SCHERMERHORN.
JOHN COLVIN.
WILLIAM FULLER.
C. E. GAGE.

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *May* 27, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany N. Y.:*

Dear Sir.—In accordance with your request I visited New Baltimore to-day and inspected the proposed site for the new school-house mentioned in the accompanying petition. I have the following report to make of the condition of the site:

The lot is on the second street back from the river on high ground on the side of the hill running back from the river and rising very rapidly. On the east and south sides are streets. On the south side of the street on the south of the lot is a small stream which turns south at the intersection of the two streets. This stream has considerable fall and can be given as much as may be desirable by excavating a narrow channel for fifty feet or so of its course along the street on the east side of the lot. This excavation would be in solid rock. The lot was originally flat and its drainage was bad on account of the rock coming to the surface on its lower side, as above stated. On its north and west sides the ground rises quite abruptly, ten feet more or less, and thence continues to rise at a more gradual slope. The lot, therefore, received some surface drainage, all of which could not get away. The lot was filled partly some time ago and the filling has been continued since it was bought for school purposes until now the surface is all above the surface rock mentioned, and there is no more danger of stagnant water on the surface. The character of the filling is a rather stiff clay which is not very pervious to water. There need be then no trouble about surface water. The depth of the original bog is said to be not over nine feet, so that it is possible to drain the whole by cutting a sufficient depth of channel through the rock in the bed of the stream above mentioned. This depth would be less than nine feet. If the figures as to depth of the bog are correct and as to depths of wells on the lots north, the water in the bottom of the bog is the same as that in the wells. With the proposed depth of filling, most of which is already in

lace, and with proper drains to keep the level of the ground vater down to the lowest limit easily obtainable, I very much loubt if there will be any trouble from the subsoil dampness. At the point where the house has been located it is found that part of the soil under the foundation is quicksand and not stable nough to carry the weight. This may be found to be the case nder the whole lot. A deep enough channel to drain out all he subsoil water will aid in making a good foundation. If the round is found firm enough near the middle of the lot to make good foundation at a reasonable expense, and that foundation s set high enough so that the grade of the surface will be away rom the house and to the outlet, and the area thereof is sur- ounded by subsoil drains below the bottom of the foundation, am disposed to think the lot will be in good sanitary condition, o far as this is concerned. It is clearly then only a matter f sufficient expenditure to make the lot thoroughly satisfactory n this regard.

As regards the water supply, I am not so sure that the lot s well located. I should not advise the use of the near-by vells under the above statement of their location and the addi- ional statement that the privies are quite near them in each ase. Water must then be obtained from a deeper source. Whether a deep well, driven or dug, will secure such a supply have no means of knowing. This should be definitely deter- nined before the construction of the building is further pro- eeded with. The lot is somewhat too small for its purpose, and the closets will be rather close to the house and also to the neighboring houses. I advised water-tight vaults of small size and the use of dry earth by the persons in charge of the house, thus making an earth closet which must be emptied at frequent ntervals. No opportunity should be given for surface water o get into the vault.

To sum up, if a safe water supply can not be secured the lot hould be abandoned. The greatest care must be taken to rain out the subsoil water to a level below the foundation, eepening the outlet if necessary; and if this is done the trouble

from this source will be as slight as at any neighboring site. As in any other case great care must be taken in constructing and maintaining the closets. The location is central and the neighborhood unexceptionable.

Respectfully submitted.

CHAS. C. BROWN,
*Consulting Engineer.*

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## INSPECTION OF MILK FACTORY AT BREWSTERS.

ALBANY, N. Y., *July* 26, 1893.

*To the State Board of Health:*

Sirs.—I have the honor to report that Tuesday, the twenty fifth instant, in company with Mr. Bogart, consulting engineer, I visited Brewsters, Putnam county, where we inspected the condensed milk factory of the Borden Condensed Milk Company. The question submitted for this Board's opinion and judgment is whether the factory, situated on the edge of the east branch of the Croton river, can be allowed to remain, certain changes being made, without danger of polluting the stream.

Our inspection showed that at present, and since the time the rules of this Board for the protection of the Croton water shed were published, the only drainage from the factory that has gone into the Croton has been the floor washings, washings of milk cans, carrying more or less of milk and the wastes from the basins where the employes wash their hands. These now flow directly into the river.

The plant is a large one, is kept in a perfectly cleanly state and no nuisance allowed to be created. It is proposed by the owner, if the Board permits, to construct a method of disposal for these wastes now discharged into the river in such manner as will prevent further contamination of the water. Our proposal is to build a drain to connect with the village sewer now attached to the electrical disposal works, and allow all of these wastes to be treated by this electrical process and pass to the settling ditches with the village sewage. This will require a

ong line of piping and pumping of the wastes. If this is not lone, then to establish an electrical plant to treat the discharge at the factory.

I see no reason why either of these plans would not remove all danger of any contamination. The pollution now going on is not very great if the amount of dilution and the flow of the stream be taken into consideration. Other contamination from the factory we did not find and as what now exists can be so easily and readily entirely removed. I am of the opinion the Board could safely recommend such work to be done and also recommend to the commissioner of public works of New York that such methods of disposal having been put in, the factory would no longer be a menace to the Croton water.

The factory at Purdy's station was also inspected. The same wastes were found only much less, the factory being a smaller plant. It is proposed here to pump the wastes across the creek and, having treated them with the electrical process, discharge them on the meadows beyond the stream. I am of the opinion if this is properly done, this factory could also be allowed to remain without any danger being incurred by the water supply of New York city.

In both cases if electrical plants are built for the factories, litches or beds should be also provided that filtration of the esulting liquid can take place before it finds its way into the vaters.

Respectfully submitted.

LEWIS BALCH,
*Secretary.*

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## EXAMINATION OF CEMETERY AT WEST WINFIELD.

According to instructions from the board of health of the own of Winfield, Herkimer county, New York, I write you in eference to the locating of a Catholic cemetery in the village of West Winfield, in rear of the Catholic church and dwellings, on he main street of the village, and ask that a member of the State Board of Health be sent here to examine the ground and

report on the same. Please let me know when the one so appointed will be here, so I can call the town board together.

Very respectfully yours.

Z. I. DOWNING,

*Town Clerk.*

West Winfield, March 30, 1893.

To the Secretary of the State Board of Health, Albany, N. Y.

ALBANY, *March* 31, 1893.

To Z. I. DOWNING, Esq., *Town Clerk, West Winfield, Herkimer county, N. Y.:*

Sir.—Your letter of the thirtieth instant, referring to the location of a Catholic cemetery in the village of West Winfield, and asking that a member of this Board be sent to examine and report thereon, is at hand.

You will please write definitely, stating the facts in the case, and also what points you wish decided by this department.

Very respectfully, your obedient servant.

LEWIS BALCH,

*Secretary.*

WEST WINFIELD, HERKIMER COUNTY, N. Y., *April* 3, 1893.

*Secretary State Board of Health:*

Dear Sir.—Yours of March thirty-first was duly received. In the matter of the locating of a Catholic cemetery in the village of West Winfield, Herkimer county, the facts in the case are these. The cemetery is located on a side hill, about 175 feet in rear of dwellings, with the drainage all toward said dwellings, and the inhabitants think that burying bodies in such close proximity to their wells would be detrimental to their health, and that is the point they want the Board of Health to decide.

Respectfully yours.

Z. I. DOWNING,

*Town Clerk.*

ALBANY, *April* 4, 1893.

TO Z. I. DOWNING, Esq., *Town Clerk, West Winfield, Herkimer county, N. Y.:*

Sir.— Yours of the third instant received this date. The consulting engineer of this Board will be sent to examine the matter of the location of the cemetery as soon as possible and will notify you when he will be in West Winfield.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *April* 17, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N. Y.:*

Sir.— In accordance with your instructions I visited the village of West Winfield and with the town board of health and the health officer inspected the site of the new cemetery of the Catholic church. The site is a side hill of steep slope back of the church, which is located on the principal street of the village near its western end. The slope of the ground of the cemetery is more towards the houses east of the church than directly towards the church, and the water draining from the hill affects the lots on which five or six houses are located. The soil near the surface is the product in large part of the decomposition of the shaly rock of the neighborhood, and is in the nature of clay. This is underlaid by a stratum of gravel in which water is found and to which wells are driven. The cemetery is on the north side of the street. On the south side the slope is gradual for a few hundred feet to a low bluff on the edge of the creek bottoms. The underlying gravel has a less slope than the surface, as the depth of wells decreases from about twenty feet on the north side of the street to six feet or less near the edge of the low bluff, and there are numerous springs along the edge of the creek bottoms. There is no doubt that this gravel is underlaid by clay.

The condition of affairs is very similar to that at Keeseville, which I visited some time ago with regard to the pollution of

certain springs and wells by the drainage from a cemetery. The only difference is that, at Keeseville, the soil was a light sand, while in this case, it is heavier and retains the water for a longer period. I can not see that this makes any difference, so far as pollution of the water draining through the cemetery is concerned. In the case of Keeseville it was recommended, that the use of the springs and wells be discontinued, as the cemetery had been in use a long time, and also that the cemetery be closed. In my opinion, this course should be pursued in this case, so far as the cemetery is concerned. But one body has so far been buried in the cemetery, so that the amount of pollution so far is inappreciable, but that is all the more reason for closing the cemetery at once, as, when the ground is once thoroughly saturated, a long period of rest must be given it before it can again become pure. There are several unobjectionable places near by, which can probably be obtained for the purpose. The principal cemetery of the town is located on the south side of the street not far distant and on the edge of the creek bottoms, where the drainage is from the houses towards the cemetery, rather than in the other direction. Such a location of the cemetery in question would not be objectionable, nor would one at a greater distance from houses and from which the drainage was not directly towards such houses.

Respectfully submitted.

CHAS. C. BROWN,
*Consulting Engineer.*

WEST WINFIELD, N. Y., *April* 26, 1893.

LEWIS BALCH, *Secretary State Board of Health:*

Dear sir.—Enclosed I send you health order and regulation adopted by the health board of the town of Winfield, Herkimer county. Do you think it meets the requirements of the law, and will it assist in discontinuing the cemetery located by the Catholic society in this village?

Respectfully yours.

Z. L. DOWNING,
*Town Clerk.*

ALBANY, *April* 28, 1893.

To Z. I. DOWNING, *Town Clerk, West Winfield, N. Y.:*

Sir.— Yours of the twenty-sixth instant inclosing the printed order of your board for the discontinuance of the use of a certain part of the Catholic cemetery in your village for burial purposes, is received. I have submitted it to the Attorney-General who pronounces it to be of proper legal form. You have therefore authority to enforce it.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

17 FIRST STREET, TROY, N. Y., *June* 6, 1893.

*The Board of Health of the State of New York:*

Gentlemen.— In accordance with the request of the Rev. D. B. Collins, of West Winfield, New York, I made, on June fifth, an examination of the land purchased by his church to be used as a cemetery in that village. This land has been condemned by the village board of health for use as a cemetery, and as it was felt that personal influence on the part of interested parties had been the cause of this action by the board, and that such action was unjust, it was considered advisable to appeal to your honorable body in case the engineer employed by the church was willing to certify that in his opinion the property was available and proper for cemetery purposes. In a conversation with the engineer during the examination of the site the Rev. Father Collins spoke substantially as follows: "I desire to do what is right in this matter. If the cemetery is dangerous to health, I want to close it, at whatever sacrifice of money or convenience, but I do not want avarice to unjustly put our parish to unnecessary trouble." I have shown on an attached sketch the position of this and another town cemetery in the immediate neighborhood, together with the adjacent houses and depth of wells. I shall refer to this drawing in the course of this report.

Before taking up the main question, it may be said that this appeal to you is rendered necessary because no opportunity

was given the church to present evidence before the local board of health. It was at first intended to buy the land behind the houses of Bently and Crum, as shown in the sketch, but when objection was made by A. B. Crum, the church agreed to take the land behind the church property instead. Upon which no further objection was made by Crum. This gentleman, who is a member of the local board, seems to be largely responsible for its action. Repayment for this courtesy was made by a condemnation of the property without a chance for a hearing.

It will be noticed in the first place that the cemetery is on a hill, with no house whatever in sight to the north, and with the nearest house to the east at an estimated distance of from 800 to 1,000 feet, with a decided intervening depression or gully. Directly west of the site is a ravine and stream, whose bed varies from six to sixty feet below the cemetery land. The one small house west of this stream is practically the only house in sight west of the cemetery. South of the property lies the churchyard, and across the street from the church, the house of Father Collins. West of his house is a vacant field. That is, the cemetery is on a hill in the country, with no houses on the east or north of it; with one across a ravine on the west; and with the churchyard on the south. Furthermore, the nature of the ground renders it extremely improbable that anyone should ever wish to build adjacent to it.

I first take up the question of surface drainage, as a matter of the least importance. Contours sketched by the eye show on the attached map the general slope of the land. It will be noticed that about three-quarters of the surface drainage passes directly into the stream on the west, and thence outward into the country. About one-quarter of the surface drainage passes to the east, with the nearest houses to the south 300 feet away, and those to the east at a distance of from 800 to 1,000 feet. All of this surface water could be easily diverted by a small ditch to the stream above referred to. Just east of the south end of the cemetery are two large, rotten manure piles, and near them a barnyard. All of these are nearer the wells of Crum and Reynolds than the cemetery property. They were there before

the property was bought by the church, and no objection has been made to them.

I next take up the question of subdrainage, to show the trend of the subsurface water from the cemetery toward the adjacent property. As might be expected, it is towards the ravine and creek to the west. Springs crop out on the cemetery property at its west side and discharge into the ravine. Furthermore, the depth of the wells in adjacent houses show this to be true. The bottom of the well of Reynolds, to the southeast, is twenty-two and a half feet below the surface of the ground. That of C. Washburn, to the southwest, is twenty-eight feet deep, with thirty feet to the rock. That of T. Moran, which is 400 to 500 feet to the southwest, is thirty-six feet deep. The surface of the ground at Washburn's house is on about the same level as that of Reynolds, and that of Moran is ten or fifteen feet lower than either of the others. Sworn testimony as to the depth of these wells will be presented if desired.

That is, the subsurface drainage is from the cemetery towards the southwest into the open country and out of the village, so that there is no probability that subsurface water passes from the cemetery into the well of the property owner, who is largely responsible for the condemnation of this land.

I now take up another phase of this question. The village of West Winfield is supplied with water from the hills piped through its streets. There is a house hydrant in the front yard of Crum within fifteen feet of his front door. Almost without exception property owners use this water in the town. Crum, himself, as shown above, has a hydrant in his front yard. The cost is about eight dollars per annum per house.

Will your honorable Board condemn a property situated substantially with no houses adjacent to it, with surface and subsurface drainage towards the vacant country as shown, and not towards the two houses whose wells are claimed to be affected, and thus put the church authorities to great trouble and expense, when by the payment of eight dollars per annum, each

of these two houses could take piped pure water and thus b
rendered independent of the well, when in fact one such hous
has already a house hydrant in the yard before it.

Your attention is called to the position of another cemetery i
this village within a stone's throw of the one about which th
contention have been raised. Houses are on all sides of it b
the north. Two bodies have been buried in the cemetery
Father Collins. Hundred have been buried in the other.
is still used for burial. In the nature of things, from four
ten times as many bodies will be interred in it as in that
Father Collins. It can be proved from the depth of wells th
the subdrainage is from it towards the west under the hous
west of it. Does your honorable Board propose to close th
cemetery also? Do you intend to close Oakwood cemetery
Troy and the Albany cemetery? Every objection raised again
the burial of bodies in that of Father Collins' at West Winfie
applies with ten times the force to these.

I am credibly informed that the general sentiment of the co
munity is against the action of the local board, but in any ca
am constrained to express the opinion, after a careful examin
tion of the premises, and a knowledge of the personal interest
involved in this case, that a confirmation on the part of th
State Board of Health of the action of the local board, woul
be a piece of monstrous injustice which should be resisted b
the appellants by every possible legal means.

Yours respectfully.

PALMER C. RICKETTS,
17 *First street, Troy, N. Y.*

UNION COLLEGE, SCHOOL OF CIVIL ENGINEERING,
SCHENECTADY, N. Y., *June* 13, 1893.

LEWIS BALCH, M. D., *Secretary State Board of Health, Albany, N.Y.*

Dear Sir.— In view of the fact that the West Winfield repor
is called in question and that some additional facts were pre
sented by Mr. Ricketts, I would call more particuar attentio
to the statements in my report, (which have been omitted in M
Ricketts statement of the facts bearing on the case) and amplif

hen a little. I stated that the ground sloped rapidly in the roposed cemetery towards the road, that on the south side of he road the slope is gradual for a few hundred feet to a low luff on the edge of the creek bottoms, and that there are umerous springs along the edge of the creek bottoms, the wells the neighborhood being shallower than above, also. I would dd to Mr. Ricketts sketch of the territory, therefore, enough o show this bluff and these springs, including the whole f the old cemetery, and would say that the largest springs eemed to be on the southeastern side of the old cemetery. I an hardly see where the water in these springs comes from if does not come down the hill, and there is therefore indication hat a part at least of the underground water drains from the roposed cemetery in the direction of wells. The indica- ion was strong enough to make me very doubtful of the ontinued purity of the wells, and knowing the serious effect f such pollution and the impossibility of removing it once here, I advised against the use of the proposed site. Suffi- ient evidence to show beyond a doubt the direction of flow of he ground water has not been adduced. I should, of course, ave no objection to make to the use of the cemetery could it e shown beyond a doubt that no water draining from it could ach a well in the neighborhood. I am aware that there is ten purification of the drainage in cemeteries before wells at e distance of these are reached, but I also know of instances pollution of a serious nature, and the description of the nature the strata of soil in Mr. Ricketts report would lead me to ace this case in the latter class.

I know of no known method of determining the contours of the pervious material below the gravel other than boring, or sound- g, if the rock is reached, and only the determination of the ntours of the stratum referred to on the lower sides of the netery would definitely settle the question as to the direction flow of the water along this stratum. The contours may as indicated in dotted lines, in which case the flow might be ch as not to reach any wells, or they might be as shown in l lines when the flow might reach the wells, or they may

be in some materially different form. I regret my inability t be present at the investigation.

Yours respectfully.

CHAS. C. BROWN.

ALBANY, *June* 19, 1893.

To Z. I. DOWNING, Esq., *Town Clerk, West Winfield, N. Y.* :

Sir.—I herewith inclose you subpoenas for the heari ordered by this Board into the matter of the new cemetery West Winfield.

The hearing will be on Monday, June twenty-sixth, and if y use the subpoenas you will please insert in the original one, af the words "John Doe," the names of those you subpoena, a have the person who serves the subpoenas ready to make a davit to such service. The original subpoena you will ple hand me when the committee meets.

Your request to have the original of Professor Brown's rep on the cemetery examination can not be complied with. A co of it was forwarded to you some time ago.

Very respectfully, your obedient servant.

LEWIS BALCH,

*Secretary.*

By virtue of the power conferred on the State Board of Healt by chapter 661 of the Laws of 1893, you are commanded that, a business and excuses being laid aside, you be and appear i your proper person, before a committee of the State Board Health, at a meeting to be held Monday in the village of We Winfield in the county of Herkimer on the twenty-sixth day June, 1893, at 8.30 o'clock in the forenoon, to testify all an singular what you may know in an investigation now pendin before the State Board then and there to be heard.

And for a failure to attend you will be deemed guilty of co tempt, and liable to a forfeit of fifty dollars.

Dated at Albany this 19th day of June, 1893.

By order of the State Board of Health.

LEWIS BALCH,

*Secretary and Executive Officer.*

To John Doe, Nodiah D. Taylor, Timothy Taylor, Rev. W. A. Penn, Dr. J. H. Stephens, Thomas Mohan, Louis B. Baneux, John B. Croak, Ernest Meyers, Peter Smith, William Knowles, Thomas Smith, Mrs. T. Smith, Mary J. Howigan, Danl. McCarthy, James Patterson, Maurice Doyle, Richard D. Jones.

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## STATE BOARD OF HEALTH OF NEW YORK.

### PROCEEDINGS IN THE MATTER OF THE CATHOLIC CEMETERY AT WEST WINFIELD, HERKIMER COUNTY, N. Y.

The parties met at the Haggerty House, at West Winfield, Herkimer county, N. Y., June 26, 1893, at 8.30 a. m., when the following proceedings were had:

Appearances.— Lewis Balch and John E. Bogart, of the State Board of Health; Charles D. Thomas, for the town board of health; Wm. J. Kernan and P. H. Murphy, for Father Collins.

Dr. Balch.— This is a hearing ordered by the State Board of Health, at a meeting held in New York, June 7, 1893, on the petition of Father Collins to reopen the case, of the order made by the town board of health of West Winfield, as to the use of the new cemetery, which has been purchased by Father Collins, situate in the rear of his church, upon the road here in the village. The hearing was granted by the State Board on the statement made before it by Mr. Palmer C. Ricketts, the civil engineer, who had made further examination of the ground at the request of Father Collins, and the Board appointed as a committee to examine into the matter and report back to the Board, Mr. John Bogart, consulting engineer, and the secretary (myself) of the Board. As this it somewhat like the opening of a judgment, I think the respondents can go on first and swear their witnesses, if they have any.

Mr. Thomas.— If the committee please, I would like to be advised as to what the aim and object of the reopening is, and to what points we may be asked to direct attention.

Dr. Balch.— As the statement made by Mr. Ricketts to the

Board on Father Collins' request, after examination, was that his examination of the ground in his opinion showed that the drainage or subdrainage water of the cemetery went to the eastward, does it not, where that stream goes down ?

Mr. Thomas.—West.

Dr. Balch.—To the westward, then, instead of coming down toward the eastward and south, and on that statement Mr. Brown, the consulting engineer of the Board, went over the ground and examined it, and by his examination he considered that the major portion of the subdrainage would come to the east and south, passing through the old graveyard on the south of the road and going into the creek and lowlands below.

Mr. Ricketts.—May I amend that statement in a slight degree ?

Dr. Balch.—Yes, sir.

Mr. Ricketts.—That is, that the subdrainage in so far as it affects the wells of which complaint has been made.

Dr. Balch.—Those are the two points. The question at issue is the affecting of the water in the wells or land of the houses lying to the south on the road, and to the east of the church.

Father Collins.—North of the road.

Dr. Balch.—Both ways—east of the church and south of the road. The question was as to this subdrainage affecting those wells. Mr. Brown reported that in his opinion they did so affect the wells, and that the drainage would go into them, and Mr. Ricketts' idea was that it would go chiefly to the westward and down into that valley. On that report the Board ordered a more formal examination and testimony to be taken and report made back to them.

Mr. Thomas.—So that the ultimate result of the investigation will be to confirm or reverse the direction which the town board received from the State Board, in its letter, following the consulting engineer's report ?

Dr. Balch.—To a certain extent, undoubtedly, if the Board so acts. It is not, of course, for the committee to take that action; the final action will be to confirm the report.

r. Thomas.—It is not to be assumed as the result of this stigation, that the State Board of Health has power, or will me by its certificate to annul the ordinance which the town d made. My meaning is, that this investigation is for the rmation of the State Board of Health. The town board is to be a distinct organization possessing certain powers.

r. Balch.—Yes, sir.

r. Thomas.—If, after this investigation, the town board sees o let this ordinance stand, the ultimate effect will be as gh this investigation had not been had. Supposing this nance stands as it does, of course, if the Board confirms its r or order which the town board received from it directing ) take such proceedings as should be necessary, so if that ds, the question that I am interested in is not up; but if State Board, as the result of this investigation, shall deter- e that that recommendation was inadvertently made and not advised and they withdraw that, it leaves the town board ject or let this ordinance stand.

r. Kernan.—They will merely let the town board revoke rdinance.

r. Balch.—As far as that goes, in one way, that under law you have got—chapter 661 of the Laws of 1893, the new lic Health Law—if it is found, upon examination, that the nance passed by the town board in this case affects others ide of its own jurisdiction, then the State Board has power evoke or modify such order or regulation as the Board may k best. If it is found it merely affects its own jurisdiction, out affecting others outside of that jurisdiction, then the e Board can advise and suggest to the local board that such n be taken. Supposing we found, after the State Board goes ugh with the examination, that reversal should take place, town board can or can not take that action in the first nce, but if the State Board considered that necessary for public good, it can require the town board to take such action r section 4.

r. Thomas.—From the statute, as I understand it, the per- ge need not be without the jurisdiction of the board, but

the question is whether the public health without the jurisdiction of the board of health is affected. The question is whether the public health within the jurisdiction of the town board is to be affected one way or another.

Dr. Balch.— If it is found necessary, after a careful examination by the State Board, that the order of the local board be advised to be reversed or revoked and the Board does not choose to do it at first, the State Board could, under section 21, I think it is.

Mr. Thomas.— You have the power under the act to make an order; there is no question about that. I will ask the committee to let me see the report of Mr. Ricketts, which was submitted and also the letter of Charles C. Brown, referring to some matter which, in his opinion, should be exemplified in itself.

(Same produced.)

Dr. Balch here read section 25 of the Public Health Act.

Mr. Thomas.— I desire to understand the position which the town board occupies, and to examine with a view to that effect.

Mr. Kernan.— I confess that we hardly expected to be called upon to give our evidence first in this matter. We are, of course, here in the character of a defendant, meeting certain charges against this cemetery, and I supposed the probable course would be for the Board to first take evidence as to the nature of the complaint, so we would know what we were to meet. But, of course, I am willing to accept the sugegstion of the Board and proceed in whatever way they see fit.

Dr. Balch.— I think we will get along quicker in this way.

Mr. Kernan.— There was a remonstrance against this cemetery filed in the town clerk's office, but I have been unable to obtain it. I wrote to Mr. Downing, who is the clerk of the town board, and he replied that it was not in his possession. It seems not to be in the possession of the State Board either. That remonstrance is rather necessary for us, in order that we may know who are complaining against this cemetery, and who are affected by it.

Dr. Balch.— I sent subpoenas for whatever you wanted, and I could have sent a subpoena duces tecum if you had wished it.

Mr. Thomas.— My advice from the clerk is that Mr. Aylesworth called for and received that remonstrance, and took it to Leonardsville with him. It has not been found, and it is not in the possession of the clerk, or the town board, or its counsel.

Mr. Kernan.— It is rather suspicious the way it has disappeared. As soon as this investigation was begun and brought up before the State Board it disappeared.

Mr. Thomas.— The action of the Board is not predicated upon the complaint but upon the recommendation of the State Board of Health and Engineer Brown.

Mr. Kernan.— All the same it is rather peculiar in a lawsuit to have the complaint disappear when the other side get ready for the trial, so they can not know who are complaining or what the complaint is.

Dr. Balch.— So far as the remonstrance is concerned, the State Board has no knowledge of it. The first case we have knowledge of is as follows:

(Dr. Balch here read the communication from Z. I. Downing, the reply by the Board to the same, together with the answer of the Board.)

That is all the complaint, and if you notice it is very carefully put; that is, there is no prejudice shown or any fight or anything of that kind, but the Board is merely asking for instruction for their guidance.

Mr. Kernan.— They would not show a prejudice upon the surface.

Dr. Balch.— That is proper and official, and it was properly taken in the way they did it.

Mr. Kernan.— That was not the paper I referred to. There was a remonstrance signed by certain people living in the neighborhood.

Dr. Balch.— On April nineteenth I wrote to Mr. Downing, as follows: (reading same.)

Mr. Kernan.— We will call our witnesses. I will not state what we are going to prove. I want to show a little preliminary testimony as to how this was bought, perhaps, and show the

depths of the wells in the neighborhood, which claim shows that the water from this cemetery runs off to the west and southwest, away from these houses that complain. We claim the cemetery is not dangerous to public health for 200 or 300 feet distance from the houses, and that no well could be injured by water coming from the cemetery. I will first call Father Collins.

Dennis B. Collins, sworn and testified:

Examined by Mr. Kernan:

Q. You live in West Winfield, Father Collins? A. Yes, sir.

Q. You are the parish priest of the Catholic congregation here? A. Yes, sir.

Q. You have been for how long? A. A year and a half.

Q. You bought this land for the purpose of the cemetery that is here complained of? A. Yes, sir.

Q. From whom did you buy it? A. From Mr. M. D. Taylor.

Q. When did the negotiations begin as to buying the land?

Objected to as incompetent and immaterial, and that the main question is when the title was acquired. Overruled.

A. Early last fall.

Q. When was the purchase finally completed? A. A few weeks before a complaint was made to the board of health.

Q. About what time was that? A. I can't tell the exact time; it is easy to be found out; Mr. Thomas made out the deed.

Q. Have you trustees in your church? A. Not real trustees—nominal simply.

Q. Did you have them meet with reference to this purchase during the time that the negotiations were held? A. Yes, sir; and before they were held.

Q. Did you speak about it to the congregation on Sunday from the altar? A. No, sir; not about the actual piece of land; I simply told them I wanted to buy the cemetery and I called a meeting of the men called trustees to decide upon the matter, and all were present, and we spoke about buying the land; that was several weeks before the negotiation took place, the actual negotiation with Mr. Taylor.

e was not any secret with reference to this negotiation?
'; none whatever.
l ask you, up to the time you bought the land and took
)r it, was there any complaint made to you that a
there would be injurious to the health of the public?
d to as immaterial and not within the issues to be
'd or reported by the committee. Overruled.
sir.
n was the first complaint made to you, Father Collins?
an hour or so after I had the deed executed.
vhom? A. By gentlemen who live in the neighborhood.
) were they? A. Mr. Bentley, Mr. Brace, Mr. Crum,
, Mr. C. D. Wheeler, and perhaps others.
t conversation did you have with them? A. It is very

d to as unnecessary to go into the details.
' made a complaint? A. Yes, sir.
t was the complaint they made? A. They complained
ıe proximity of the cemetery and the possibility of its
he water in the wells around there; the conversation
nce was simply this; that I offered to take the money

give up the purchase of the land? A. Yes, sir; I
hem to see my committee and get their consent, and
r. Taylor; and they saw Mr. Taylor and notified my
e; that I know of.
you understand that Mr. Taylor refused to do that?
: no proof of it except hearsay.
you understand it so? A. Yes, sir; I heard so.
/ much did you pay for the land? A. Six hundred

' many people are there in the congregation in that
ıther? A. It is difficult to say exactly; there are about
l families numbering some seven, eight or sixteen mem-

ut how many funerals do you have in a year, or have
A. Last year there were eight or nine; that is dur-

ing the year past; that is more than the usual number; more than the average.

Cross-examination by Mr. Thomas:

Q. Father Collins, when did you become the resident pastor of that church? A. A year ago last January first.

Q. How many years has that church been a separate parish? A. I think about nineteen.

Q. Where have burials taken place usually from this parish? A. In all the Catholic parishes in this vicinity; Waterville, Clayville, Richfield Springs and Clinton.

Q. Many of your congregation own lots in other cemeteries? A. Yes, sir.

Q. You mean to have the committee advised that there was no stealth about purchasing this land? A. No, sir; none whatever.

Q. Did you announce to your congregation that you didn't know that the bargain was made? A. No, sir.

Q. You never stated that to your congregation? A. No, sir.

Q. I suppose you were entirely free from prejudice in reference to that matter? A. Yes, sir; entirely.

Q. But within half an hour after you made the contract, and before you got your deed, there was a complaint made to you by near residents, was there not, that they feared contamination? A. Yes, sir.

Q. Subsequent to that you took the deed and paid the purchase price? A. Not subsequent.

Q. Subsequent to the signing of the contract didn't you take the deed and pay the purchase price? A. No, sir; not after the contract was the complaint made to me, but after I received a deed.

Q. Did you hear anything about a complaint before you took the deed? A. I heard Mr. Taylor say two parties objected to it.

Q. Those two were the nearest residents to the cemetery? A. Yes, sir.

Q. Notwithstanding that, you took a deed? A. Mr. Taylo[illegible]

). (Interrupting.) Answer that question, yes or no? A. Yes,

). Paid your money? A. Yes, sir.
). After you had taken the deed and heard the complaint you begin to bury bodies there? A. Certainly; that is at I bought it for.
). Were you present when the grave was opened nearest these lls, and in the southern part of the cemetery? A. When it s partly opened.
). Did you see water in it? A. No, sir.
). Were you there when the body was deposited? A. No, sir.
). Were you there when the second grave was opened on the of the hill? A. No, sir.
). You say you offered to take the $600 back? A. Yes, sir.
). Who did you expect or intend would take charge and fur- h the money? A. Mr. Taylor; simply return it.
). So that the negotiation in reference to the surrender of s land was a personal one between you and Taylor; you relied irely upon him to take a reconveyance of the land and give 1 back the money? A. Yes, sir; I relied entirely upon him; lidn't expect the others to have anything to do with it; I ggested it to them.
). After this ordinance was passed, did you countenance or k about burying a body within the limits of this land? A. I ver countenanced it.
Q. Did you talk about it? A. Yes, sir.
Q. Did you tell from your altar that bodies would be buried m there, notwithstanding this health ordinance? A. No, sir.
). Prior to the passage of this health ordinance, what under- ter had been in charge of the funerals, as far as you observed, ce you have been here? A. Mr. Wilcox.
). When Michael Bond was buried, did you say to his family t they must not employ Mr. Wilcox — advise them not to ploy him? A. No, sir.
). Did you advise them to employ a non-resident Catholic dertaker? A. No, sir; they had him employed before I came me.

Q. When Michael Bond's body was buried did you know it was beyond the limits of the land? A. Yes, sir.

Q. Did you spread that news among you congregation? A. I didn't take particular pains to do it.

Q. You took particular pains to conceal that fact, didn't you?

Objected to.

Q. Did you endeavor to, or did you conceal that fact from your congregation?

Objected to as immaterial and incompetent. Overruled.

Q. I didn't go out of my way to do so; I concealed it inasmuch as I didn't tell it except to certain members.

Q. Did you advise the persons who opened the grave that they were not trespassing or going contrary to this ordinance? A. No, sir.

Q. Did you advise the undertaker that he was not going contrary to the ordinance? A. No, sir.

Q. Did you advise him to go on the land and bury the body? A. No, sir.

Q. Did you advise him not to? A. Yes; because the town clerk refused him a burial permit.

Q. Did you write several letters to the town clerk? A. No, sir; not several.

Q. Two? A. Yes, sir; perhaps so.

Q. Did you write a letter to a member of the health board (Mr. Wilcox)? A. Yes, sir.

Q. Did you write him you would expect him to tell Mr. Costigan that he told him two lies? A. Yes, sir.

Q. You never had any personal talk with any members of this board of health in reference to this land? A. No, sir.

Q. You never sought from the town board a reinvestigation? A. No, sir; I didn't expect one.

Q. Did you publicly announce from your altar yesterday that this investigation would take place this morning, and request your congregation to be present? A. No, sir; I didn't request them to be present.

Q. Did you tell them you would like to have them there? A. No, sir.

Q. You told them nothing but the mere fact that the committee would be here at half-past 8? A. Yes, sir; many of them are my witnesses.

Q. And many of them are not? A. Yes, sir.

Redirect examination by Mr. Kernan:

Q. Father Collins, when the contract was drawn first for this cemetery, who drew it? A. Mr. Thomas here.

Q. About how long was that before the deed was drawn? A. About a week or so, more or less.

Q. Who drew the deed? A. Mr. Thomas.

Q. After this complaint was made or about that time, did you not propose that if there was any drainage from the cemetery towards the village you would head it off by digging a deep ditch across at the foot of the cemetery into the ravine on the west? A. I stated to my own people; some of them who were interested; that I would do so.

Q. That you would cut off any contaminating substance by putting a ditch there? A. Yes, sir; I said how it could be done and was willing to do it.

By Mr. Thomas:

Q. That is, to your own people? A. Yes, sir; merely.

Thomas Mohan, sworn, testified:

Examined by Mr. Kernan:

Q. You live in West Winfield? A. Yes, sir.

Q. What is your business? A. At present working in a annery.

Q. Where do you live with reference to this cemetery? A. live pretty near directly south.

Q. You live on the south side of Main street? A. Yes, sir.

Q. About how far? A. Well, in the neighborhood of 500 feet.

Q. Have you a well on your premises? A. Yes, sir.

Q. What is the depth of your well? A. Thirty-six feet from the ump down; the pump may be a foot over the surface of the round.

Q. Have you been in the business of driving wells in t village here? A. Yes, sir; I have done some of it.

Q. To what extent? A. I drove four or five around in t neighborhood.

Q. How have you found the depth of these wells? A. I h driven on Taylor avenue there, and the two there have ha depth of about twenty-one feet from the top of the ground.

Q. Did you have to drive deeper as you go to the south? Yes, sir; according as you go southwest they fall deeper; liam Knowles well—

By Mr. Bogart:

Q. (Interrupting.) What kind do you drive? A. One and quarter inch pipe.

Q. Is your well that kind? A. Yes, sir.

Q. Does it get to rock? A. No, sir.

Q. But it gets to a water-bearing strata? A. Yes, sir.

Cross-examination by Mr. Thomas:

Q. You are a member of Father Collins' congregation? go to church once in ten years.

Q. Your religious preferences are Catholic? A. I was bro up that way.

Q. Have you dug or assisted in digging graves in the cemetery? A. Yes, sir.

Q. Did you dig the first one? A. No, sir.

Q. The first interment was where? A. South end.

Q. Did you dig the one on the top of the hill, in the north corner? A. No, sir.

Q. You only helped to dig Bond's grave? A. Yes, that's all.

Q. What did you find when you dug that grave? A. I fo terrible hard digging.

Q. You found very hard, solid soil, did you not? A. No,

Q. You found hard digging in soft soil, did you? A. Yes, as you might call it soft soil; there was a great deal of stone heavy gravel.

Q. Did you find any clay? A. No, sir; I didn't have to go deep enough for clay.

Q. You found both large and small hard stone? A. Yes, sir.

Q. And a sandy soil? A. Yes, sir; kind of sandy, loamy, soil.

Q. Shale or rock in it? A. No, sir.

Q. How deep did you dig that grave? A. I believe six feet.

Q. Do you swear it was six feet? A. Five and a half or six; I will not say it was six.

Q. Will you say it was over five feet and four inches? A. Yes, sir.

Q. Will you say it was not as deep as that? A. It was as deep as that; it was over five feet; I can't get down to a sixteenth of an inch.

Q. When you dug that grave, or before that, were you advised by Father Collins it was not within the cemetery? A. No, sir.

Q. When you dug it, you supposed you were digging in the confines of the cemetery? A. Yes, sir; I thought so.

Q. Did you know of this health order then having been passed forbidding anybody to inter a body? A. Yes, sir.

Q. You had knowledge of it? A. Yes, sir.

Q. Notwithstanding that you intended and supposed you were violating a regulation of the board of health in digging that grave? A. Nothing was said about digging a grave.

Q. You helped in digging the grave? A. Yes, sir.

Q. You knew if the body was interred, or you supposed if they put it in, they would violate that health ordinance? A. I was working for money.

Q. You supposed that, didn't you? A. Yes, sir.

By Mr. Kernan:

Q. You got paid for your digging the grave? A. Yes, sir.

Q. For whom did you drive these wells? A. One for Mr. Canno.

Q. That is what house down, from Henry Braces; first comes Braces and then Hackley next and then Philip McCarty next? A. No, sir; it is between Hackley and McCarty.

Q. What was the depth of it? A. Twenty-one feet.

Q. And yet you didn't strike any rock? A. No, sir.

Q. What time of year did you dig that? A. I drove that in April.

Q. When did you dig yours? A. Two years ago this August coming.

Q. Did you dig any more along there? A. I drove McCarty's.

Q. That is the next house south? A. Yes, sir.

Q. How deep did you drive that? A. About twenty-one feet; the same distance as the other.

Q. What time did you drive it? A. Along the last of April or the first of May.

Q. Did you drive any others? A. William Knowles.

Q. That is at the extreme end of what is called Taylor avenue? A. Yes, sir.

Q. When did you drive that? A. I drove that a year ago last spring.

Q. What is the depth of it? A. About thirty-three feet.

Richard D. Jones, sworn, testified:

Examined by Mr. Kernan:

Q. You live in West Winfield? A. Yes, sir.

Q. You live directly west of this new cemetery? A. Yes, sir.

Q. Yours is the small house in the ravine there? A. Yes, sir.

Q. It is the nearest house to the cemetery? A. Yes, sir.

Q. Have you any objection to this Catholic cemetery being put there?

Objected to as incompetent and immaterial. Sustained.

Q. Whereabouts does Mr. Washburn live? A. South of me.

Q. Is his the house directly south next to Main street on Main street? A. Right down the avenue below me.

Q. West of the church? A. Right across at the north end of the church.

Q. Did you drive Washburn's well on his premises? A. Yes, sir.

Q. When was that; how long ago? A. Two years ago.

Q. How deep is his well? A. About twenty-eight feet.

Q. You are not a Catholic, are you? A. No, sir.

By Mr. Thomas:

Q. Did you drive through any rocks? A. I believe not.

By Mr. Bogart:

Q. What kind of a well did you drive? A. Inch and a half pe.

Q. One of the regular driven-well pipes? A. Yes, sir.

Q. Did you have difficulty in driving it; did it seem to be ky? A. It seemed not to be; it drove quite hard but nothing at indicated any rock.

By Dr. Balch:

Q. Did you stop on rock or in water stata? A. I couldn't say.

Q. Do you know whether you struck rock or not? A. No, sir.

By Mr. Bogart:

Q. Have you a well upon your place? A. Yes, sir; I have a ing in my cellar.

By Mr. Thomas:

Q. How deep is your cellar? A. About six feet.

Moses E. Jordan, sworn, testified:

Examined by Mr. Kernan:

Q. You live in West Winfield, Mr. Jordan? A. Yes, sir; not West Winfield, in North Winfield.

Q. Where does Thomas Smith live? A. He lives on the uthern end of Taylor avenue.

Q. On the east side of the street? A. Yes, sir.

Q. Did you measure his well? A. Yes, sir.

Q. How deep is it? A. Twenty-eight feet.

Q. Where does Henry Brace live? A. He lives in the northern l of Taylor avenue on the east side.

Q. Did you measure the well on his premises? A. Yes, sir.

Q. How deep is it? A. Twenty-two feet.

Q. Did you measure the well on the premises belonging to ther Collins? A. Yes, sir; I did.

Q. How deep was his well? A. Twenty-four feet

By Mr. Thomas:

Q. To what part did you measure — the bottom, or where t water was? A. I supposed to the bottom of the well.

Q. Do you know whether it was or not? A. I had a le sinker and it struck bottom.

Q. That was all the way you could tell? A. Yes, sir.

By Mr. Bogart:

Q. What kind of wells were they? A. Two of them were wells and one of them was a driven well.

Q. Which was the driven well? A. Mr. Smith's.

By Mr. Thomas:

Q. You are a Catholic, I believe, are you not? A. Yes, supposed to be.

By Mr. Kiernan:

Q. What size are those dug wells? A. I should think t were about three feet across; I didn't measure them.

Q. Three feet in diameter? A. Yes, sir.

By Mr. Bogart:

Q. Are they walled up with stone? A. Yes, sir.

By Mr. Thomas:

Q. Do you know where the water makes into the Hen Brace well? A. I know nothing about it except what he to me.

Q. Or to Father Collins' well? A. I don't know only by t indication of the depth.

Thomas Smith, sworn, testified:

Examined by Mr. Kernan:

Q. Where do you reside? A. I live in West Winfield, on Tayl avenue.

Q. You live at the southern end of Taylor avenue? A. Ye sir; east side.

Q. You have a well upon your premises? A. Yes, sir.

Q. How deep is it? A. I don't know.

Q. Your well was measured by Mr. Jordan, the last witness? A. My folks said they came there and measured the well; I wasn't there.

Q. How far are your premises from the old cemetery? A. I should think about eighty to 100 feet.

Cross-examination by Mr. Thomas:

Q. When was your well driven; since you lived there? A. Yes, sir.

Q. Were you there when it was driven? A. I drove it myself.

Q. What kind of pipe was used? A. Iron pipe, inch and a quarter, I think.

Q. Was the bottom point in sand; did you draw sand before you drew water? A. Yes, sir; I suppose some sand and gravel.

Lewis B. Banno, sworn, testified:

Examined by Mr. Kernan:

Q. Where do you reside? A. West Winfield.

Q. Do you live on Taylor avenue? A. Yes, sir; I do.

Q. On which side? A. East side.

Q. Have you a well on your premises? A. Yes, sir.

Q. How deep is it? A. Twenty-one feet from the top of the round.

Q. How far are you from the village cemetery? A. One hundred and two feet from the well to the cemetery.

Cross-examination by Mr. Thomas:

Q. Did you dig or help to dig the three graves that have been dug in this new cemetery? A. No, sir; I helped dig two; Mrs. Caroline Hassett's was one.

Q. When you dug that grave was there water in it after you got it dug? A. No, sir; there was not in her grave; it was perfectly dry.

Q. Did you cover the Michael Bond body after it was buried? A. Yes, sir.

Q. Did you have knowledge at that time of this health ordinance when you covered it? A. Yes, sir; I did.

Q. At that time did you believe that grave and body to be within this territory? A. No, sir; I didn't know anything about it.

Q. You thought it was? A. Yes, sir; I did.

Q. Yet with full knowledge of that ordinance you buried the body? A. Yes, sir.

By Mr. Bogart:

Q. What kind of a well is yours? A. Driven well.

Q. How large pipe? A. Inch and a half pipe; the largest pipe upon the street.

By Mr. Thomas:

Q. Your point is in sand? A. I couldn't say.

By Mr. Bogart:

Q. What did you pump up first? A. Gravel.

Q. Fine sand? A. There must be fine sand in it.

By Mr. Thomas:

Q. You got hard gravel in it; didn't you? A. Yes, sir; got quite hard gravel, hard-pan.

Q. You had the common point made of pipe with holes in it? A. Yes, sir.

Q. The largest hole wasn't over a quarter of an inch across? A. No, sir; I should say not.

Q. You had several of them? A. Fifty-six of them.

Q. You had sand and gravel when you pumped first? A. Yes, sir.

Q. And water? A. Yes, sir; within three feet of the top of the pipe.

Q. Which stays there now? A. I couldn't say how much.

Q. It stays up pretty well from the bottom? A. Yes, sir.

Daniel McCarty, sworn, testified:

Examined by Mr. Kernan:

Q. You live in West Winfield? A. Yes, sir; I don't live in the village.

Q. Do you own a house on Taylor avenue? A. Yes, sir.

Q. On which side of Taylor avenue is it? A. East side.

Q. Is there a well upon your premises? A. Yes, sir.

Q. Do you know how deep it is? A. It is about twenty-one feet, I think.

Q. How near are your premises to the village cemetery? A. About 100 feet.

Cross-examination:

Q. I suppose you have an inch and a quarter or an inch and a half driven well? A. Inch and a quarter.

Q. Did you drive it yourself? A. I helped drive it.

Q. When you struck water what did you pump up; did you pump up sand? A. Yes, sir; some.

Q. Your well is right over the water-bearing strata and a little hole made there, as you understand, from the pumping up of the sand, for it to drop into, is what you think you have got? A. Yes, sir; I can't tell about it, of course.

By Mr. Bogart:

Q. How high does the water stand in your pipe? A. I don't know.

Q. Didn't you know when you first struck water? A. I don't remember, now.

By Dr. Balch:

Q. How far do you think? A. I swan, I couldn't tell you; I know I had lots of water.

Lewis B. Banno, recalled, testified:

Examined by Mr. Kernan:

Q. How do you know how high the water stood in your pipe there? A. At the time I drove the well?

Q. Yes. A. Because I had a pipe seventeen feet and four inches, that I got of Mr. Patterson, and when I drove the well by putting a pipe down I supposed I was going to have a flowing well; that was my idea, and I says to Thomas Mohan, "I think we will drive a little further, and we may get a flowing well;" he said, "If you drive a little more you may lose it," and so I

stopped there; I had a rule in my pocket and I measured down from the top; you could strike the water by the rule — that is, for strength.

Q. How far down did you drive before you struck the water? A. I should think about — I couldn't tell you, really; I know I put the pump down and drove down to get the distance, and I thought we had water, but we couldn't draw water, and we drove through the hard-pan six or nine inches, and after driving through that there was no trouble to drive it any distance you wanted; after you got through that hard-pan you could strike water, and I put the pump on and the water rose to the top of the pipe, or within three feet of it.

Q. How deep was it when you struck the water? A. About fifteen feet, I would say.

By Mr. Thomas:

Q. How deep had you driven before you struck what you call hard-pan? A. I should say, probably, fourteen feet.

Q. You had about a foot of hard-pan? A. It come pretty near being a foot of hard-pan; I couldn't tell you, of course; I didn't go down there.

John H. Stephens, M. D., sworn, testified:

Examined by Mr. Kernan:

Q. Where do you reside, doctor? A. West Winfield.

Q. What is your business? A. Physician.

Q. How long have you been a physician? A. Ten years.

Q. You know this site for the proposed new Catholic cemetery? A. Yes, sir.

Q. Familiar with it and the surroundings there? A. Yes, sir.

Q. Do you see any reason why the Catholic cemetery, in its present location should be prohibited on the score of injury to the health of the public?

Objected to as improper and incompetent.

By Dr. Balch:

Q. Have you examined into this question at all? A. Not very thoroughly.

Q. Have you examined into it so you can pass upon it as a medical man as to whether it is injurious to health or not? A. Not scientifically.

By Mr. Kernan:

Q. Have you an opinion as to whether it is healthy or not? A. I have an opinion.

Q. Were you formerly health officer of the town of West Winfield? A. I was in 1891.

Q. I ask for your opinion as to this?

Objected to that the witness is not shown to have made any such examination as to be sufficiently familiar with the premises or their situation, and thus be able to give the board of health any aid by virtue of his examination. Overruled.

A. I don't think it would be injurious.

Cross-examination by Mr. Thomas:

Q. In other words, you think that the establishment of a cemetery, to exist for years, and to be buried full of bodies, would not be one of the things which would be a menace to public health?

Objected to as assuming facts not proven.

A. I suppose it depends altogether upon the make-up of the ground.

By Dr. Balch:

Q. You would not say it was or was not absolutely? A. No, sir; I could not.

William A. Fenn, sworn, testified:

Examined by Mr. Kernan:

Q. Where do you reside? A. In this place.

Q. Do you supply the village of West Winfield with water? A. Yes, sir.

Q. Are pipes laid to supply that water on Main street in front of the Catholic church and in that vicinity as far as Father Collins' house? A. Yes, sir.

Q. What is the price you charge for village water?

Objected to as incompetent, irrelevant and immaterial. Sustained.

Mr. Kernan.—I can prove by the witness who has water along in that neighborhood supplied by the village.

Dr. Balch.—I don't think that is necessary to be gone into.

William Knowles, sworn, testified:

Examined by Mr. Kernan:

Q. Where do you reside? A. Taylor avenue.

Q. What part of it? A. At the lower end.

Q. You live on the south end of it? A. On the south end; yes sir.

Q. On the west side? A. Yes, sir.

Q. Have you a well on your premises? A. Yes, sir.

Q. How deep is that well? A. That is thirty-three feet, sir from the surface.

Cross-examination by Mr. Thomas:

Q. Do you mean from the top of the pipe to the bottom of the pipe? A. No, sir; from the surface of the ground to the point it is thirty-three feet deep.

Q. How much water have you got in that well? A. I couldn't tell you how much there is.

Q. You have not measured it? A. On the first start I did.

Q. How much did you have then? A. There was some six or eight feet, I guess.

Q. Has it continued, as far as you know, up to now? A. I don't know as to that.

Q. You don't know of it ever dropping or raising? A. No sir; I couldn't tell you about that.

By Mr. Bogart:

Q. Inch and a quarter well? A. I believe it is.

Q. You never struck any rock there? A. No, sir.

By Mr. Thomas:

Q. You got into rock and gravel? A. Yes; quicksand.

Q. When you first pumped you pumped some sand? A. Some uicksand and some other sand; larger sand; it came up through e pipe.

Q. You don't pump any now? A. Occasionally there is some the pail; a little once in a while.

By Mr. Kernan:

Q. Did you drive through any clay? A. Oh, yes; we had to; was all quicksand first and then clay.

By Mr. Bogart:

Q. How did you know it was clay? A. It drove hard; we uldn't drive but a little at a time; we expected it was clay cause it drove so hard and the other drove easy.

By Mr. Thomas:

Q. Did you keep turning your pipe as you went down? A. es, sir; some; not a great deal.

Q. Did the pipe grate? A. I guess so; I couldn't say exactly; e kept driving until we thought it was deep enough, and then e tried it and had water.

Q. You don't know whether your pipe grated or not? A. No, r; I couldn't tell as to that; we kept driving, and I was inexrienced upon it, you know, and I couldn't tell.

By Mr. Kernan:

Q. Did you strike more than one layer of clay there? A. ell, I couldn't tell about that.

Michael D. Taylor, sworn, testified:

Examined by Mr. Kernan:

Q. Where do you reside? A. West Winfield.

Q. You owned this property that you sold for a Catholic cemey? A. Yes, sir; I did.

Q. For what length of time were the negotiations going on as the sale? A. I should think six or eight months; I don't ow but longer.

Q. Did you talk with different people in reference to this? A. Yes, sir; I did.

Q. Did you talk to any member of the board of health? A. I don't know.

Q. Did you talk to Mr. Crum? A. I did.

Q. He is a member of the board of health? A. I couldn't tell you.

Q. Don't you understand he is a member? A. I don't know.

Q. Don't you understand he is a member? A. I don't know anything about it.

Q. I don't ask what you know about it, but don't you understand he is a member of the board of health? A. No, sir; I don't.

Q. Never heard of it? A. Never.

Q. Did he make any objection to the sale of this property? A. He did not.

Q. Do you own other property in that neighborhood there? A. I do.

Q. What property do you own there? A. I own the land on all sides of this lot.

Q. Do you own lots there fronting on Main street? A. Yes, sir.

Q. That is the principal street of the village, is it not? A. Yes, sir; it is one of them.

Q. Are those lots for sale? A. They are.

Q. Did you sell the land there for the Catholic church? A. Yes, sir; I did.

Q. Was there objection made to that sale?

Objected to as irrelevant and immaterial. Sustained.

By Mr. Bogart:

Q. You say you own the land all around the cemetery? A. I do.

Q. Between the church and the cemetery? A. Yes, sir; I do.

By Mr. Thomas:

Q. That strip of land is sixty feet in width and across the whole width of the cemetery? A. Yes, sir.

Q. That was reserved at your solicitation for a driveway to
t from this east land over into the gully and up the hill? A.
s, sir; it was reserved.
Q. That was the object of reserving it — to furnish you a
ssageway from the east side of the cemetery and on to your
her land without coming down through this lot and up this
tle ravine? A. The object was to reserve sixty feet for my
n use.
Q. Just a little northeast of the north line of this land is
ere a spring in that ravine? A. No, sir.
Q. There are no springs along there? A. No, sir; there is a
ring beyond, say twenty or thirty feet.
Q. From that spring it water conducted down to your premises
d to Charlie Wheeler's, in pipes? A. Yes, sir.
Q. And has been for a great many years? A. Yes, sir.
Q. Practically, since the Hardin house-pipe was put in? A.
at was put in since my remembrance.
Q. Forty-five or fifty years ago was that pipe laid and used?
Yes, sir; probably forty-five years ago.
Q. After this health ordinance was passed you heard of it?
Yes, sir.
Q. Prior to the burial of the body of Michael Bond did you give
rmission that that body should be interred upon your land?
Yes, sir.
Q. Upon whose application did you give that permission? A.
couldn't tell you that exactly.
Q. Father Collings?
Objected to as immaterial. Overruled.
Q. Was that permission given upon the personal solicitation
you of Father Collins — I will say the solicitation — whether
e conversation in reference to it was between you and Father
llins for permission to bury Michael Bond above the north
e of this piece of land in your meadow? A. My recollection
uld be that he was present or near by at the time.
Q. Who applied to you, if not Father Collins, for that per-
ission? A. Michael Nolan.

Q. At the time was there anything said in Father Collins' presence of the fact that they had permission to bury north of this line should be kept secret and quiet? A. I couldn't say there was.

Q. Was there no mention made of it between you and Nolan and Father Collins that nothing should be said about it? A. I can't say anything about that anyway; if you will allow me, the matter of burial in the north —

Q. What do you mean by you "can't say;" that you have no recollection of such talk or that there was talk and you have forgotten? A. I don't think I have forgotten it.

Q. Was there some talk about keeping quiet the fact that they had permission to bury that single body upon your land? A. I can't say there was anything said about keeping it quiet; I will say there was nothing of that kind said, to my recollection, about keeping it quiet.

Q. Did you tell anybody that you had given this permission before Michael Bond's body was buried there? A. No, sir; and I don't know to-day that it was buried there.

Q. They had permission before the burial to bury it there if they desired? A. Yes, sir; I offered to let John Croker be buried up there on the hill.

Q. You own the land between Crum and C. D. Wheeler? A. Yes, sir.

Q. Have you had any application to buy those lots since the 28th of April, 1893? A. No, sir.

By Mr. Kernan:

Q. The sale of lots is not very fast in West Winfield? A. I haven't sold any very lately.

By Mr. Thomas:

Q. Did you have application to purchase them in 1892. A. No, sir.

Q. Neither one of them? A. No, sir.

Palmer C. Ricketts, sworn, testified:

Examined by Mr. Kernan:

Q. Where do you reside? A. Troy, N. Y.

Q. What is your business? A. Civil engineer and instructor the Polytechnic.

Q. In what institution? A. I am director of and professor rational and technical mechanics in the Rensselaer Polytechnic stitute; that is my regular title, I believe.

Q. How long have you been an engineer? A. I have been acticing the profession for about, I should say, eighteen years, een to eighteen years.

Q. Did you examine this site for the proposed cemetery at est Winfield? A. Yes, sir.

Q. About what time was it when you examined it? A. I exam-d it on June fifth; that is the day, I believe, which is men-ned in the report.

Q. Did you see Father Collins before the examination? A. s, sir; I received the letter from Father Collins on the second third of June, I think it was, asking me to come to West infield and make an examination of the site; I came on June th.

Q. Did you see him then? A. I saw him then.

Q. What took place then? A. Well, he showed me the ceme-y and asked me to make an examination of it, and to make report upon the subject, giving the results of my examination.

Q. Did he tell you not to have any bias one way or the other reference to making a report? A. Yes, sir; the first words he d to me—

Q. (Interrupting.) Never mind about that.

The witness.—He did tell me.

Q. What did you do? A. I went over the ground and exam-d the lay of it and looked for the distance of the houses—t is, cursorily, and then I measured the distance from the theast corner of the cemetery to the nearest well.

Q. What well was that? A. That was the well of Mr. Bentley; ink it is; it is the nearest house to the church.

Q. What distance did you make it? A. I made that 278 feet; n I made inquiries from a numebr of persons as to the th of the wells, and I concluded from my general examination t the tendency of the subsurface water would be towards

the southwest; judging from the depth of the wells, I concluded, as far as I could tell from such an examination, that the tendency was towards the southwest not only on that account but on account of the general slope of the land — that the general tendency of the subsurface drainage from the cemetery, or probably three-quarters of it, would be towards the southwest, and I concluded from such examination (that is, from a consideration of the depth of the wells), that anybody buried in the cemetery would not affect the wells of Mr. Bentley and Mr. Crum; those were the two houses I paid more particular attention to, as I understood that complaint had been made from those sources; I went somewhat into detail in my report to the board of health, and I don't know that it is necessary to go over that here; finding houses to the east from 800 to 1,000 feet off, and to the north I could see no house, and to the west there was a ravine, and to the south the churchyard, I made a sketch which I submitted with the report, and I might say in regard to the sketch here that it is made only as a sketch, although in a general way it was drawn to scale; the 278 feet and the 200 feet mentioned from the east line of the churchyard to the barn was measured; the other house was sketched in, from my general recollection, and Taylor street, as I understand it is called, is also sketched in; the well of Mr. Bentley, being twenty-two and a half feet deep, and that of Mr. Washburn to the west being twenty-eight feet deep, and that of Mr. Mohan, to the southwest, being thirty-six feet, and the general slope of the hillside being towards the southwest, I concluded that the general trend of the subsurface water would be in that direction also; that, of course, is an opinion.

Q. Did you notice any springs in the ravine on the west of the cemetery? A. Yes, sir; I found springs on the west which were dribbling down into the ravine from the west slope.

Q. What would that indicate, if anything, to your mind? A. That would indicate that the subsurface drainage was in that direction; these springs were of various depths below the top of the hill, twenty or thirty or forty feet, or something like that.

Q. In your opinion, would the use of that cemetery there, be injurious to health or have a tendency to poison the waters of the people? A. I think not.

Q. As to the surface drainage, if there was any, how could that be diverted?

Objected to as incompetent.

The witness.— I might be allowed to say, perhaps, that I don't think I could give the present consulting engineer here much information upon that subject that he is not perfectly familiar with; it could be diverted, of course, by a ditch along the east side of the cemetery, and then following the south side down to the ravine.

By Dr. Balch:

Q. Such a ditch as that would not have much action upon the subsurface water? A. Only under certain circumstances; if you dug it deep enough to intercept the subsurface water.

Q. Below the water-bearing gravel then, you would turn the flow? A. Below that layer into the layer of clay.

Q. Unless you found that clay perforated? A. Yes, sir.

Q. And found it to lay in two layers and joined at different points? A. If there were two layers it would be better.

Q. Joining at the different points? A. You understand what I mean, of course; I don't know what you mean by "joined at different points;" if the surface of the clay was broken and the water went through this would be satisfactory.

Q. You say that in your opinion three-quarters goes to the eastward and the other one-quarter would go to the eastward and southward? A. Yes, sir; to the eastward and southward, I should say; it would not, however, reach the houses upon the village street.

Q. Apparently of the subsurface drainage would three-quarters one way and one-quarter the other way? A. It would be very difficult for me to say.

Q. You would not say it would not? A. No, sir.

Q. And you would not say it would? A. No, sir.

Q. I would like to ask, general, what method could be used to determine absolutely, in the simplest manner, the direction of the subsurface drainage? A. By driving wells at different points and using chloride of lithium.

Q. A line driven around the base of that hill in that manner (indicating) and taking it over towards the east and around the base of the hill and to the eastward of the cemetery would intercept the whole subsurface flow? A. Yes, sir.

Q. That would tell the trend of the water? A. Yes, sir.

Q. By taking the level? A. Yes, sir; by taking the level as struck.

Q. That would probably be the only way to thoroughly decide it? A. In my opinion, yes; that is to decide it absolutely.

Q. If the decision found that instead of three-quarters going to the westward it went to the eastward, then the subsurface drainage would lead up more towards the hollow and that line which was found on inspection? A. If it showed the trend was toward the southeast then I think it would probably continue to the south.

Q. And go off to the main stream, which is down below the old graveyard? A. Yes, sir; I think probably it would.

Q. When you made the examination did you go along the line of the old graveyard? A. I examined the graveyard in a cursory sort of way; I didn't go into it.

Q. You didn't examine the bank at the lower end of the graveyard to see whether there was any spring came out? A. No, sir; I noticed the bank but I didn't see as to any spring.

Cross-examination by Mr. Thomas:

Q. Upon whose pay did you perform this service? A. Upon nobody's pay.

Q. You were a volunteer? A. No, sir; not necessarily.

Q. Did you make charges for your services? A. I have not made any charges yet.

Q. You intend to present a bill to the parties who employed you? A. I have not decided upon that point yet.

Q. You don't intend to present it to the State Board of Health? A. No, sir.

Q. Or the town board? A. No, sir; I might say in regard to
at that is a stock question of cheap lawyers, and my coun-
l might have objected to it on the start as immaterial.
Q. You not being a "cheap lawyer," are then a sort of dear
gineer, are you? A. That is a leading question, and I refuse
answer it.
Q. Would the existence of springs upon this bank (indicating)
ve any indication to you of the trend of subsurface drainage?
Not from that hill at that distance.
Q. Would you say upon your reputation that none of the
ainage from this hill was thrown off and in to the wells lying
the west side of Taylor avenue? A. No, sir.
Q. You intended to be entirely fair, I assume, in your report to
e State Board of Health? A. Yes, sir; I based my report
on the information I gained.
Q. Did you furnish your report to the State Board of Health
r direction of Father Collins? A. Yes, sir; practically.
Q. Prior to furnishing it did you have any conversation with
y member of the State Board, or did you receive any direc-
ns from any member of it to make this examination? A.
, sir; none at all.
Q. Do you think the existence of one nuisance authorizes the
stence of another? A. No, sir.
Q. In your report to the honorable State Board you did
mate that the existence of the old cemetery was some justifi-
ion for the establishment of a new one back of the church,
n't you? A. Well —
. (Interrupting.) Answer the question whether you did or
: to a "cheap stock lawyer?" A. Yes; to a cheap stock
yer.
. You did so intimate to the State Board? A. Yes, sir.
. So that, notwithstanding, if you had found that the trend
the subsoil drainage could have affected these wells that
cemetery which you seem to style a menace to the public
lth you would not have not reported it was — A. (Interrupt-
) I didn't style it as a "menace to public health;" find it in
report if you can.

Q. You said to the State Board that there were certain cemeteries — that "every objection raised against the burial of bodies in that of Father Collins', at West Winfield, applies with ten times the force to these," referring to the Oakwood cemetery in Troy, and the Albany cemetery? A. Yes, sir; I did.

Q. There was the application to this cemetery of the objections raised against them? A. What do you mean by that; speak English.

Q. You say the objections raised applied with ten times equal force to the Albany cemetery; did they apply to the Albany cemetery? A. In my opinion they did not apply to the Albany cemetery.

Q. Do they apply to Oakwood, Troy? A. In my opinion it would be ridiculous to close Oakwood cemetery.

Q. Did they apply to Oakwood? A. I make the same answer.

Q. Did the objections apply to Oakwood which were raised against the establishment of this cemetery of Father Collins? A. I claim there are no objections against this cemetery.

Q. I didn't ask you that; I ask you now, whether the objections you understood were raised against this cemetery applied to Oakwood? A. Yes, sir; the objections that I understood were raised against them.

Q. Did it apply to the cemetery at Troy? A. In my opinion the objections which were raised; the Oakwood is the cemetery at Troy.

Q. Did they apply to any other points? A. To an indefinite number of points.

Q. Did they apply to the Albany cemetery? A. Yes, sir.

Q. But with greater force than they did to this one? A. Yes, sir; as I state in my report.

Q. So that there was an application of the objections to this cemetery? A. No, sir; there were no objections in my opinion and —

Q. (Interrupting.) So that the application of the objections to the cemetery at Troy, known as Oakwood, were not ten times greater than to this one; answer the question; yes or no? A. There were no objections, in my opinion, to that cemetery.

). Answer the question, whether the objections raised against
s cemetery applied to Oakwood with ten times as great
ce as to this? A. Yes; any objections which were raised
it.

). Have you been in the habit of making reports upon matters
this kind to the State Board of Health? A. No, sir; not to
State Board.

). To other boards? A. Yes, sir.

). Do you usually characterize the acts of people according
your own notions in your reports? A. I generally write my
orts —

). (Interrupting.) I repeat my question? A. I write all my
orts, and they vary in character, depending upon circum-
nces.

). Do you always characterize the acts of individuals accord-
to your own notions? A. Sometimes.

). Have you done it upon other occasions than this? A. I
't remember.

). You did it in this, didn't you? A. You can tell from
ding it.

). Didn't you? A. No; I submit the report.

). Did you characterize in this report the acts of individuals?
No, sir.

). None whatever? A. Not to my knowledge; not to my
nembrance.

). Referring to Mr. Crum, "this gentleman, who is a member
he local board, seems to be largely responsible for its action;
ayment for this courtesy was made by a condemnation of the
perty without a chance for a hearing" — did you put that
' A. Yes, sir.

). You intended to criticize his action as a member of the
al board? A. Yes, sir; it was intended to convey the mean-
, I so believe.

). Meaning thereby that doing his duty as a health officer he
s showing a discourtesy to Father Collins? A. Yes, sir; I
pose that is implied.

). Did you measure the depth of water in any of the wells?
No, sir.

Q. They didn't bear to you any reference as to where the su surface drainage was — the depth of water didn't bear to yo mind any reference to the question as to what the subsurfa drainage was? A. The depth to which they were driven be upon that question; the depth to which they were driven to fi water.

Q. The depth of water in a well has nothing to do with t question, in your opinion as an engineer? A. I has somew to do with it.

Q. It is one of the vital points by which to determine the of the water in the well? A. Not necessarily.

Q. Does it not in any wise tend to show where the sou of the supply is? A. Yes, sir; it tends to show.

Q. So if you desired to fairly determine as to whether or that water had its origin in springs or other sources in t hillside you would have measured the depth of water? A would have depended upon the depth it was driven when wa was struck.

Q. But no reference to the height of the water in the well — you put that as your opinion that the height of the water in well has no reference to the question? A. Practically, yes.

Q. You are acquainted with the lithium test? A. Yes, si

Q. You had abundant opportunity to make it? A. Yes, si

Q. You didn't make it? A. No, sir.

Q. You said that taking a circle of 100 feet — do you mean taking a circle just off the south end or through here (indicati and putting the pipes here and testing with lithium salts determine the subdrainage? A. I mean driving them in dif ent positions.

Q. Where would you drive them, along the base? A. H (indicating).

Q. Would you drive over here (indicating)? A. They m be driven there.

Q. And over here (indicating)? A. The more you drive more certainly you would determine; I wouldn't drive over ravine.

Q. So far as you are concerned it is a matter entirel opinion? A. Yes, sir.

Do you form that opinion upon the lay and surface of the
ıd ? A. Yes, sir; partly from that.
Largely from that ? A. Yes, sir.
Where is the highest point ? A. Up here (indicating); I
: say here that from the nature of the examination I did
un a line or level along here (indicating) but it is along
(indicating) some place.
The highest point east and west is very near the west
ıes of this lot ? A. I can't say; it is somewheres out
·ds the middle.
Will you say from the middle to within thirty-five or forty
›f a fence which bounds the west side there is any declin-
owards the west ? A. It inclines towards a small ravine
ıere towards the northwest.
You have been on the land this morning? A. Yes, sir.
How far east of the west confines of this land is that high
up near the north side of that land? A. I can't tell you
ly; it is up near the center of the lot I should say.
What do the little black lines running off towards the
ıre pile indicate? A. General direction of the surface
'.
Anything else? A. That is what they were meant to
ıte.
Do they indicate to your mind what you say is the general
of the subsoil drainage from the eastern portion of the
A. No, sir; they are not meant to.
Do you say that the southeast corner of this land is lower
gher than the southwest corner? A. I don't know exactly
ı is the highest; they are about the same level.
Taking it 200 feet north of the hill do you know what
lope is of 80 per cent in width or about 80 per cent in
; is it towards the east or west? A. Up here (indicating)
›f it is towards the east and part towards the west.
What proportion can you state as you remember it now?
is not possible to accurately state until you make a con-
nap or measurements, which I didn't do.

Q. You made this map? A. Yes, sir; and I stated at the time that it was a sketch.

Q. You made it for the information of the State Board? A. Yes, sir.

Q. Did you have in mind that the existence of manure piles along the barn was any justification for the establishment of this cemetery? A. No, sir; no justification.

Q. Did you intend to call the attention of the State Board of Health to it as a reason why the protest against the use of this property as a cemetery ought not to be entertained? A. Yes, sir.

Q. That is the only purpose for which you purposed to call their attention to it? A. No, sir.

Q. Did you tell me you thought you were entirely fair between these people and the Board of Health? A. I think I took a fair view of the whole question from my information and knowledge, which I obtained that way.

Q. What are your religious tendencies, if you please? A. My family are Presbyterians.

Q. Are you an attendant at the Presbyterian church? A. I am not a member of any church.

Q. I suppose you never attend the Catholic church? A. No, sir; I don't think I have been inside of a Catholic church for more than once or twice in my life.

Q. I don't suppose you are actually engaged in actual engineering? A. Yes, sir; quite so.

Q. Beyond your school? A. Yes, sir; I always have some kind of engineering work on hand.

Q. In making your investigation you didn't make any excavation or anything of that kind? A. No, sir; my report to the Board states what I did.

Q. If you were told when the grave was dug in the northeast corner of the land water was found in it to the depth of a foot or two— A. (Interrupting.) No, sir; I was not so told.

Q. Would it influence your mind if you knew it? A. Yes, sir; that it was all the more reason for not discontinuing it.

Q. All the more practical for use as a cemetery? A. Yes, sir.

Redirect examination by Mr. Kernan:

Q. How would it show that? A. It would show there was a ıyer of impervious clay beneath the bodies as far as that was ɔncerned; that would prevent any water—it would tend to revent any water or any other impure matter from percolating eneath it; it is well know that clay is a very satisfactory subance to keep water out with.

Q. In order to make a lithium test it is necessary to have ells driven? A. Yes, sir.

Q. There were no wells dug there when you were there? A. o, sir.

Q. Therefore you could not make the test? A. No, sir; I idn't care to go to the expense of making the test.

Q. Is there anything you would like to state further? A. othing special; I have stated in regard to the map that it was tended for a sketch.

Q. It is meant to be a sketch of the situation? A. Yes, sir; eneral sketch of the situation.

Q. The measurements marked upon it are correct? A. Yes, r; the 278 and 200.

Q. I understood you to say that Bentley's well was the earest well to the cemetery? A. Yes, sir; I believe so; I can't ate certain whether his well is nearer than Washburn's or not; is the nearest well on this side of the ravine.

Q. That is 278 feet distant? A. Yes, sir.

By Mr. Thomas:

Q. Were you at one time consulting engineer to the State ard of Health? A. No, sir.

By Mr. Kernan:

Q. Would not the drainage of the water from the cemetery the distant of 200 or 300 feet tend to filter that water and render it pure? A. To a certain extent, yes.

By Dr. Balch:

Q. That would depend upon what the water ran through, uldn't it? A. Yes, sir.

By Mr. Thomas:

Q. Will you say to this State Board that the precolation of water through this kind of soil you found there will tend to purify it of poisons? A. I didn't find any soil there.

Q. You didn't look for any? A. No, sir.

Mr. Kernan here rests.

Theodore Deecke, M. D., sworn, testified:

Examined by Mr. Thomas:

Q. Where do you reside? A. In Utica.

Q. What is your business? A. Medical and technical examinations or analyses.

Q. What position have you held for the past few years? A. I was for seventeen years connected with the State hospital at Utica as pathologist and chemist.

Q. Have you inspected the location of this cemetery up here? A. I was there this morning; I made only a superficial examination.

Q. From observation, did you make yourself familiar with the lay of the land and surface part as far as you were able? A. Yes, sir; a little; so far as can be seen.

Q. From the observation you have made, have you a present opinion, as to the subsoil drainage and its direction? A. I have some opinion.

Q. Will you state, in your own way, what direction, in your opinion, the subsoil drainage from that land is in?

Objected to that the witnesses is not an expert upon that question.

Q. Doctor, have you made some analyses of waters and other substances, for the purpose of determining the source of their contamination? A. Oh, yes; a great many.

Q. After having done that, have you observed the conditions of the surrounding land? A. Yes, sir.

Q. From your experience in that regard and having observed the condition of these lands, are you able to tell to your own satisfaction, as to the course of the subsoil drainage of these lands.

Objected to.

Q. Have you an opinion upon that basis? A. I have an opinion.

Q. Based upon your experience in that regard? A. Yes, sir.

Q. Give it to this commission? A. I thought that the drainage was toward the east; there are springs towards the west, which go down way into the ravine, but the springs are no evidence of drainage.

Q. Subsoil drainage of this particular land? A. No, sir; not for the subsoil drainage.

Q. Are poisons generated in dead bodies after burial? A. Yes, sir.

Q. What are they termed? A. They are called ptomaines.

Q. Are they soluble in water? A. Yes, sir.

Q. Will the filtration of that water through soil purify it of those germs? A. I don't think it will much.

Q. Are you familiar with the fluids or the composition of the fluids used in embalming bodies? A. Yes, sir.

Q. What are their chief parts? A. Arsenite of soda, bichloride of mercury and sulphate of zinc.

Q. Are they all soluble in water? A. Yes, sir.

Q. Will the filtration of water containing these poisons through soil purify it absolutely? A. No, sir.

Cross-examination by Mr. Kernan:

Q. Doctor, you live in Utica? A. Yes, sir.

Q. This morning was the first time you ever saw this cemetery, I suppose? A. No, sir; I have been here a couple of years ago.

Q. Did you make any examination of the cemetery then? A. No, sir; not of that cemetery.

Q. Of that piece of land? A. No, sir; I was in the village only.

Q. You didn't examine that piece of land? A. No, sir.

Q. This morning was the first time you looked at that land with reference to ascertaining the drainage of it? A. Yes, sir; I only formed an opinion; I didn't ascertain anything; I can't say that.

Q. You can't swear absolutely which way the water does run under the soil there? A. No, sir; of course not; I was only allowed to answer as an opinion formed from observation.

Q. Have you ever paid any particular attention to the question of subsoil drainage? A. Oh, yes; I have; I have lived eighteen years in the outskirts of Utica.

Q. Have you given particular attention to it for the purpose of being called as an expert to testify? A. Yes, sir; I did; numerous wells in all parts of the city.

Q. Is not your business principally analyzing water or other substances rather than that of a chemist? A. All kinds of chemical work.

Q. Is not that your principal occupation? A. Medical examinations, pathological examinations and post-mortem examinations.

Q. Do you claim you are an expert so you can tell by looking at the situation how the water goes under the soil? A. No, sir; I didn't claim that.

Q. Do you claim that now? A. No, sir; I can only give my opinion.

Q. Do you claim that now — that you are an expert in that branch? A. No, sir; I don't.

Q. Doctor, don't the filtration of water through the soil have some effect upon it in clearing it of impurities? A. It all depends upon the soil; it may become purer.

Q. It may become pure, may it not? A. Yes, sir; it may become pure, although we know very little about that.

Q. That is a matter of opinion also, isn't it? A. It is generally said that filtration through soil purifies the water, but it has not been so in my experience.

Q. That is a general rule, is it not, that the filtration of water through soil purifies it? A. It has been a general rule — not a rule but a belief, but it has not been verified.

Q. The greater the distance from the source of pollution the greater the chance of the water being purified of that particular pollution, isn't it? A. Not always; it depends upon the nature of the pollution or contamination and the nature of the soil.

Q. What would be the effect of filtering through a sandy
l? A. A pure sandy soil, as I think, purifies the water more
in filtration through a mixed soil.
Q. Did you make any examination of the waters in the neigh-
hood of this cemetery to discover if they were poisoned or
luted? A. No, sir.
Q. Doctor, would water be purified by filtering it through a
t or two of sand? A. Yes, sir; sand is used for filtration.
Q. For that purpose? A. Yes, sir; if the sand is pure.
Q. Is complete purity of the water obtained by filtering it
ough a foot or two of sand? A. No, sir; not complete; it
l improve the water.
Q. Practically complete, is it? A. You can't speak of it as
mplete;" you can only say it will improve water; it will
ain many of the impurities; it has more of a mechanical
ion than a chemical action.
Q. What, in your opinion, would be the effect of filtration
ough 278 feet of sand; would not that render the water com-
tely purified? A. I never examined any water that filtered
ough such an amount of sand.
Q. What would you think about it? A. I can't tell anything
out it from personal experience.
Q. You say that filtration through a foot or two of sand ren-
s water purer? A. Yes, sir.
Q. And it is used for that purpose? A. Yes, sir; from
periment.
Q. That is an experiment performed for the purpose of ren-
ring the water pure? A. Yes, sir.
Q. If filtration through a foot or two of sand would render
purer, would not filtration through 278 feet of sand probably
nder that water pure? A. It would do the same thing.
Q. You would not be afraid to drink it, would you? A. No,
r; it all depends upon the sand and what the water was.
Q. At whose request did you come here? A. I was asked to
me here by Professor Hodges, in Utica; he asked me to come
his place, as his mother was sick, and so he gave me the
ldress of Mr. Thomas and asked me to telegraph Mr. Thomas
at I would come here in his place.

Redirect examination by Mr. Thomas:

Q. In giving your opinion of the purification of water you spoke of purifying? A. Yes, sir.

Q. You speak of filtering through pure sand? A. Yes, sir.

Q. From your observation and experience has it led you to believe that the filtration of water through such soil as we have there does not tend to render it entirely pure — such soil as you observed there this morning? A. What I have seen of the water there, the springs on the west side, they do not look very pure; the water was not very pure.

Q. Well, now, have you examined bodies for mineral poisons such as are used in embalming, a long time after burial? A. Yes, sir.

Q. How long after burial? A. I had one case that it was nine years after burial.

Q. How far removed from that body did you find the evidences of poison in the ground? A. Between thirty and forty feet.

Q. After nine years you made an examination — after the body had been buried nine years — of soil thirty or forty feet removed from the body? A. Yes, sir.

Q. As well as soil near the body? A. Yes, sir.

Q. And demonstrated that mineral poisons had come from that body to that soil? A. Yes, sir; that was a case in the Little Falls cemetery.

Q. Supposing water had surrounded a decomposing body and that water was filtered through such soil as you saw there, would you advise its use for drinking and cooking purposes?

Objected to.

Q. You may state whether or not in your opinion its use for cooking and drinking purposes would be detrimental to health?

Objected to that the place is not stated.

Q. What do you say you found the character of the soil to be up here from the examination you made? A. I found the soil to contain a great many stone, large and small and some Utica slate or hard-pan partially broken down; those substances tend to purify the water very much.

By Dr. Balch:

Q. Where did you make that examination of the soil? A. Then I went up the ravine there to-day.

Q. You didn't do any digging for it? A. No, sir.

Q. You took the outcropping? A. Yes, sir; on the de where it was cut I looked; there were a few places which owed large deposits of this broken down Utica slate and hard- in and in other places quite large pieces.

By Mr. Thomas:

Q. Did you observe the character of the top soil there that opped out on the hill? A. Yes, sir.

Q. What do you say whether or not water that had sur- unded a decomposing dead body, filtered through such soil as ou found there would be prudent or injurious to public health drink or to use?

Objected to. Sustained.

Q. What do you say as to whether filteration of water through iat kind of soil after it surrounded this dead body would be iemically pure and fit for drinking and cooking purposes? A. would not be chemically pure; it may be fit to drink and may not be.

Q. How can you tell? A. By examining the water.

Q. In no other way? A. No, sir.

Q. Prior to having made that examination so as to determine hether it was pure or not would you recommend it to be used or drinking and cooking purposes? A. No, sir; I should not nless it was shown by analysis that it was pure enough.

Q. To your mind, scientifically, the presumption would be it ould not be fit to use until after a chemical analysis? A. es, sir; that is so.

Recross-examination by Mr. Murphy.

Q. You say you analyzed the earth in Little Falls about rty feet away from where the body was buried about nine ears after it was buried; in what cemetery was that? A. he high up cemetery.

Q. Upon what they call Church street? A. I think it is.

Q. How far down did you dig in that cemetery? A. We dug the body up.

Q. Did you dig down any depth below the body? A. Yes, sir; we took the coffin out.

Q. You only dug down to the coffin? A. Then I asked the man with the spade to get me some of the soil down in there and of the soil that was thrown up and further away, for I wanted this for my own use.

Q. Weren't there other bodies buried around in close proximity to this? A. Yes, sir.

Q. Was not that cemetery well filled up with bodies? A. Yes, sir; I think it was.

Q. Is it not true that close to the surface in that cemetery you strike the solid rock? A. No, sir; it was a very sandy soil.

Q. You will not swear that the rock is not close to the top of the ground there? A. There is not much rock; where the bodies were buried it was very sandy.

Q. You don't know how near the rock comes to that sand? A. I don't remember the things exactly now, as it is eleven years ago since I made the examination.

Q. In Little Falls it is usually rock bottom all over? A. Yes, sir.

Q. And the rocks come to the surface in many places? A. Oh, yes, sir.

Q. You don't know but they have to blast out sometimes in order to dig the graves deep enough to lower the body in that cemetery? A. Yes, sir; I suppose so.

Redirect examination:

Q. In filtering water through sand for the purpose of purifying it, will the sand soon become charged with impurity? A. Yes, sir.

Q. In order to be of benefit it must be changed? A. Yes, sir.

Q. If the sand had been charged with impurities, filtering water through it will leave it with practically all the impurities it had in it when they started upon its filtration? A. Yes, sir.

'estimony closed.

)r. Balch.—I will say to the counsel in the case that the :ting will be adjourned, and I do not think we can agree at present on any definite time for adjurnment, as I shall ct Mr. Bogart, as consulting engineer of the Board, to cause e made such examinations, by boring and tests, as he thinks )er and best in order to determine this ground flow water, then the hearing can be again resumed and his report put r a copy sent to both counsel and we can agree upon a place time of meeting before the committee reports to the Board. n the report to the Board will be made at the next meeting he Board, depending upon any other hearing which we ?, at which time I will make both reports to the Board, and ou desire to be present at the meeting I will send notice to of the meeting.

ALBANY, *August* 15, 1893.

*he State Board of Health :*

rs.—Your committee appointed to examine the matter of cemetery at West Winfield, respectfully submit their report. n July twenty-seventh the committee submitted its report he matter as far as it had then gone and asked leave to con- e the investigations and tests begun under the superin- lence of one of the committee, Consulting Engineer Bogart. r. Bogart's report, together with the report of the chemist 1 the State laboratory who was detailed on the work, are :with appended and show the following facts:

irst. That the general trend of the subsoil water is toward southwest, and not towards the east and southeast.

·cond. The chemical examinations give as results, no trans- ion of the chemicals used taking place between the exca- )ns made and the neighboring wells.

ıps, profiles and sections showing the topography of the ? examined are submitted.

Very respectfully, your obedient servants.

LEWIS BALCH,
JOHN BOGART,
*Committee*

NEW YORK, *August* 14, 189

DR. LEWIS BALCH, *Secretary State Board of Health:*

Sir.—I present my report upon the examination of the pr
erty purchased for a cemetery at West Winfield, Herki
county, and of the adjacent parts of that village.

The cemetery property lies north of Main street, but
upon that street, the churchyard of the Roman Catholic chu
and also a strip of ground sixty feet wide, being between M
street and the cemetery. The churchyard is 133 feet wide
Main street and extends 304 feet northerly from that str
then comes the strip of land sixty feet wide owned by a cit
(N. V. Taylor). The cemetery is therefore 193 feet from M
street. There is a road, west of the churchyard, by which
cemetery can be reached.

The cemetery property is 654 feet long in a northerly di
tion, measured on its eastern boundary, which is straight.
is 133 feet wide on the south; 267 feet wide on the north;
western boundary is an irregular line, as shown by the acc
panying map.

The topography is irregular and the variation in the elevat
of the surface is considerable. The lowest point within
property is on the southern boundary; the highest point is
the northern boundary about fifty feet west of the northe
corner. The ground at that point is ninety-five feet higher t
at the south line.

Directly west of the property is a hollow or ravine thro
which runs a small stream. At the line of the southern bou
ary this stream is about fifteen feet west of the property l
and six feet lower than the ground at the line. At the lin
the northern boundary the stream is about 150 feet west
the property line and thirty-three feet lower than the grou
at that line. The road runs between the stream and
property.

The ground rises sharply from the stream and the slope of
surface is very steep inside the cemetery property from its w
boundary easterly to the top of this ravine slope. This top

ched at an average of about 130 feet east of the west line of property. The slope eastwardly then becomes much less l the slight crest is reached in about thirty to fifty feet far- r; the ground then slightly descending to the eastern line.

n the other direction, from north to south, the slope is com- atively regular; rather flat at the north for about 200 feet, n more or less steep to within 100 feet of the south line, for ich distance it is light.

The variations of surface are shown by the contour lines upon accompanying map.

The map also shows the location of streets and houses in the ghborhood of this cemetery. There are also figures upon it ich indicate the general topography of this part of the village. figures in West Main street and in Taylor avenue, are the nal elevations of each point above an assumed level plane. r convenience of reference the northeast corner of the Roman tholic church, on its water table was assumed as 100.) It will seen that Main street in front of the church has an elevation 89.9. The southeast angle of cemetery property is 108.0 or 1-10 feet higher than Main street. The northeast angle of cemetery property is 202.2 or 94.2-10 feet higher than the rtheast angle. It will also be seen that Main street rises m in front of the church to Taylor avenue and thence falls stwardly. Also that Taylor avenue falls from Main street rtherly to its termination.

The cemetery south of Main street (not the Roman Catholic metery) has in it a large number of graves. From its southerly d there projects a table land, as indicated, and this ble land terminates in an abrupt, sharp slope to the level of e wet river meadow and marsh land, nearly fifteen feet lower. long the base of this flows the east branch of the Unadilla er. This wet low land extends along the east side of the metery and back well towards Main street, as shown. The nd is wet and but little above the water in the river. Water zes from the bottom of the bank, which is, as stated, some rteen feet high. The water is most apparent near the points rked (S). The slope from the higher table land extends west-

erly from this old cemetery, as indicated upon the map. Other figures show elevations at the points indicated in the rear of the property north of Main street.

The locations of a number of wells are given upon the map. The figures given at these locations indicate the elevation of the bottom of each of these wells. The well, used for potable supply, which is nearest to the Roman Catholic cemetery property, is a driven well, in the cellar of the house of R. Bentley. It is connected with a pump in the kitchen and is in family use. The distance to this well from the nearest point of the Roman Catholic cemetery, the southeast corner, is 284 3-10 feet. This well has a sand screen and check valve on the pipe in the cellar which Mr. Bentley stated could not be removed. He stated that the pipe extended twenty-two feet below the surface of the ground, the surface point being indicated by him. The figures for elevation of bottom of this well are based on this statement.

(There is a pipe sunk in the barn of R. Bentley, a one-inch pipe, projecting above the floor of the barn. This pipe has but three inches of water in its bottom. It is twenty-three feet long. It has no pump on it and Mr. Bentley states that it is not in use.)

The next well is in the cellar of the next house, that of Albert Crum. This is a driven well, extending up to kitchen, where there is a pump. The water from this well is used for family purposes. It extends fourteen and nine-tenths feet below cellar floor, and at the time of examination there was about three and one-half feet of water standing in the pipe. These figures are obtained from actual measurement. This well is 292 feet from the nearest point of the Roman Catholic cemetery.

The next well is that in the rear of the house of Mrs. Mary Leach. This is a curbed well, nineteen and one-half feet deep to bottom. It has only one foot of water. It is not used at all. The water smells foul.

It is stated by Wilford Wright, who dug the curbed well, at the side of the house of H. L. Brace, on the opposite side of Main street, and somewhat southwesterly from the Leach well, that when the Brace well was dug, it drained the water from

each well, and rendered the latter unserviceable. This statement is made by Mr. Albert Crum and by Mr. H. L.

next well is a curbed well, in the yard east of the house P. Wheeler. This well is used for drinking water. It is een and one-half feet depth to bottom, and has one and enth feet depth of water. It is 460 feet distant from the t point of the Roman Catholic cemetery.

his house is the end of a pipe said to lead from a spring vest of the Roman Catholic cemetery property. This pipe, er, is not now in use. No water is flowing from it and it ıot appear to be serviceable.

:he east side of the barn in the rear of the properties of and of Wheeler, at the point marked "P" on the map, is l pool or pond of stagnant water, green on the surface and ve to sight and smell.

:he side of the next house, Mrs. S. S. Morgan, is a curbed :overed over and not in use.

:he east side of the house of Mrs. S. E. Downing is a well l with a wooden tubing, two feet diameter, twenty-two ıe-tenth feet to bottom, eleven and one-half feet of water. vell is used for drinking purposes.

the south side of Main street, at the corner of Taylor e, is the curbed well at side of house of H. L. Brace, twenty- .nd three-tenths feet deep with three and two-tenths feet of water. This is the well said to have drained the Leach

›osite is the curbed well at rear of house of Father Collins. s not used for drinking water.

Taylor avenue, west side, is a driven well in cellar of of Mr. Byron S. Davis, stated to be thirteen and one-half elow bottom of cellar, with connection to pump in kitchen. water is used for drinking.

st of the foot of Taylor avenue is the driven well in front house of Thomas Mohan. This has a depth to bottom of y-seven and two-tenths feet and a depth of water of four- ınd seven-tenths feet. This water is used for drinking.

Many of the houses are supplied by pipe from the mains of the water-works, owned by a private company. These mains are laid in the streets and supply families, and also have fire hydrants attached. The water comes from artesian wells on the hills north of the village.

The elevation of the bottom of the following wells (all referred to on plane of reference above described is:

| Location. | Elevation of bottom of well. | Elevation of water in well. |
|---|---|---|
| Wheeler | 75.3 | 77.1 |
| Leach | 76.4 | 77.4 |
| Crumb | 74.7 | 78.2 |
| Bentley, stable | 78.6 | 78.8 |
| Bentley, house | 73.5 | Not known. |
| Brace | 64.7 | 67.9 |
| Davis | 63.0 | Not known. |
| Mohan | 41.6 | 56.3 |

At the points marked A. B. C. and D., holes were dug and the materials found at each location are indicated upon the sections accompanying, which also show the elevation of each different material, referred to in the general place of reference. The excavation was quite difficult. All that indicated as having any clay is very compact and similar to what is sometimes called hard pan.

The sections of these excavations show the relative heights of similar materials at each location.

Chemical solutions have been used in connection with these excavations, the process adopted and the results being presented herewith in the report of the chemist detailed for this purpose.

Respectively.

JOHN BOGART,

*Consulting Engineer.*

ALBANY, *August* 15, 1893.

Hon. JOHN BOGART:

Dear Sir.—I inclose herewith a summary on last week's work at West Winfield, from notes taken during the progress of the work.

Very respectfully.

EDWARD J. WHEELER.

Monday, August 7, at 11.30 a. m., north-east hole on proposed cemetery lot was filled with water and from this time until 5 p. m. Saturday, August 12 was kept as nearly as was possible, in this condition.

In all one and one-fifth barrels of salt and one-half ounce of flourescein were added to this hole at the following times: One barrel of salt and about two-thirds the amount of flourescein at 11.30, on Monday one-fifth barrel of salt, and the remaining portion of flourescein at 12 on Wednesday.

The water in this hole lowered on an average about three feet between time of leaving 5 p. m. and 10 a. m. with the exceptions of the nights the water was kept near the high mark all the time.

Water was used in the following approximate amounts in this hole:

Monday, eight and one-half barrels; Tuesday, fifteen and one-half barrels; Wednesday, nine and one-half barrels; Thursday, eleven barrels; Friday, six barrels; Saturday 5 barrels.

On Thursday, August 10, at 3.30 p. m., the southeast hole, just outside the fence of the proposed cemetery lot, was filled with water.

To this hole was added one-half ounce of flourescein and one and four-fifths barrels of salt. Four-fifths barrel of salt and two-thirds of the flourescein at 3.30 Thursday; the remainder of the flourescein at 2 p. m. on Friday. One barrel of salt at 10 a. m. Saturday.

This hole emptied itself very rapidly, and it was found impossible, with means at my disposal, to keep the hole filled either Thursday afternoon or all of the time Friday; though there was but one short period on Friday when the water was

entirely out of the hole. Saturday it seemed to run out more slowly and the hole was kept nearly filled all day. The following amounts of water were used:

Thursday, between 3.30 and 5.30, nineteen barrels; Friday, fifty-one and one-half barrels; Saturday, forty-eight barrels.

Samples were taken from the following wells before beginning tests on Monday: Bentley, Crum, Wheeler and the village supply, which was used a portion of the time for filling the holes.

At 12.15 samples were taken from wells of Collins and Brace. These were found to contain the following amounts of chlorine:

| | Chlorine |
|---|---|
| Bentley well | 0. |
| Crum well | 0. |
| Wheeler well | 1. |
| Collins well | 0. |
| Brace well | 0. |
| Village supply | 0. |

Thursday, August 10, at 3 p. m., before beginning test on lower hole, sample was taken from Bentley well, and tested:

| | Chlorine |
|---|---|
| Bentley well | 0. |

Friday, August 11, at 2 p. m., samples were taken from wells of Bentley and Crum, and tested, with following results:

| | Chlorine |
|---|---|
| Bentley well | 0. |
| Crum well | 0. |

Saturday, August 12th, between 2 and 3.30 p. m., samples were taken from various different wells, which it was thought might be affected, and tested for chlorine contents:

| | Chlorine |
|---|---|
| Bentley well | 0. |
| Crum well | 0. |
| Wheeler well | 1. |

| | Chlorine. |
|---|---|
| Collins well | 0.4 |
| Brace well | 0.7 |
| Washburn well, on further side of small brook | 0.4 |

The water in none of these wells seems to have been affected in the slightest by the tests made at the two holes in or near the proposed cemetery lot.

ALBANY, *August* 30, 1893.

To Mr. Z. I. DOWNING, *Clerk Board of Health, Town of West Winfield, N. Y.:*

Sir.—Enclosed are forwarded copies of the report of the committee appointed by the State Board of Health to examine into the matter of the Roman Catholic cemetery at West Winfield and the reports of the engineer and chemist conducting the experiments.

The Board, at its meeting of August twenty-fifth, adopted the following resolution:

"The report of the committee on the West Winfield cemetery matter be accepted, adopted and the committee discharged. And that the secretary be directed to communicate to the local board of health of the town of West Winfield the report of the committee and that, in the opinion of the State Board of Health, the local board should rescind its order passed April, 1893, said order forbidding the use of the new Roman Catholic cemetery as said order was made and published under advice from this board which further and careful examinations, as shown in the reports of the engineer and chemist, prove to have been founded on a mistake as to the danger, the use of said cemetery might be to certain wells used for potable water supplies."

It is therefore suggested that the board of health of the town of West Winfield take such action as may be necessary to comply with the recommendations of the resolution above quoted.

Please inform me what action the board takes upon the matter.

Very respectfully, your obedient servant.

LEWIS BALCH,
Secretary.

ALBANY, *August* 30, 1893.

To Rev. D. B. COLLINS, *West Winfield, N. Y.:*

Sir.—I inclose a copy of the resolution of the State Board adopted at its meeting on the twenty-fifth instant, relative to the cemetery matter at West Winfield, and also of the letter to the local board.

It is respectfully suggested that until the local board rescinds the resolution and order of April last, relative to the non-use of the cemetery, it would be best not to use the same. It is expected the local board will take immediate action. If it does not, further action will be taken by this Board.

Very respectfully, your obedient servant.

LEWIS BALCH,

*Secretary.*

WEST WINFIELD, *September* 8, 1893.

LEWIS BALCH, M. D., *Executive Officer, State Board of Health:*

Dear Sir.—I would like to say that the board of health of West Winfield has refused to allow an interment to be made in the Catholic cemetery of this place.

The death occurred last night and the body will be buried on Monday. The local board was seen this morning regarding the opening of the cemetery and the rescinding of their order so as to permit the burial of the case on hand. Their excuse for refusal to comply with your instructions was that some water taken from certain wells was being analyzed for them, and that they would not take any action until they were prepared to do so.

You will remember how prompt those gentlemen were when it was question of closing the cemetery.

We shall, I suppose, bury this corpse outside the limits, as on a former occasion, except that you give us permission to inter in the cemetery. If you can do so, please wire me before Saturday evening, at my expense. If I do not hear from you we shall bury outside.

Thanking you sincerely for your efforts in having the matter thoroughly and fairly tested, I remain,

Yours very respectfully.

D. B. COLLINS.

ALBANY, *September* 11, 1893.

*tary Board of Health, West Winfield, Herkimer Co.:*

r.— On August thirtieth, I wrote you the decision of the e Board of Health, regarding the matter of the Roman olic cemetery and requested a report as to what action the d of health of West Winfield would take on the suggestions e by the board.

ill you please answer as to this matter, on receipt of this r?

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

WEST WINFIELD, N. Y., *September* 12, 1893.

IS BALCH, *Secretary State Board of Health:*

ear Sir.— In answer to yours of the eleventh, I would say the town board have taken no action in regard to the an Catholic cemetery. There will be a meeting of the board orrow, the result of which I will write you.

Respectfully yours.

Z. I. DOWNING.
*Town Clerk.*

WEST WINFIELD, N Y., *September* 15, 1893.

IS BALCH, *Secretary State Board of Health:*

ear Sir.— The board of health of the town of Winfield held eeting yesterday. The report of the State Board of Health the Roman Catholic cemetery was received and placed on The board adjourned without transacting any further ness.

Respectfully yours.

Z. I. DOWNING,
*Town Clerk.*

ALBANY, *September* 19, 1893.

Ir. Z. I. DOWNING, *Town Clerk, West Winfield, N. Y.:*

r.— Yours of the fifteenth inst. was handed me on my return own this morning.

Copies of my letters to you and the correspondence in the case have this date been forwarded to the president of this Board, requesting instructions as to what further steps are to be taken in the matter.

It appears from the action of the board of health of West Winfield that the suggestions made by this Board have not been passed upon. You will be notified of the president's decision as soon as it is received.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

ALBANY, *September* 19, 1893.

To FLORENCE O. DONOHUE, M. D., *President State Board of Health, Syracuse, N. Y.:*

Sir.— I respectfully call attention to enclosed copy of correspondence regarding the matter of the Roman Catholic cemetery at West Winfield. The letters to Father Collins, and one to Mr. Downing, the town clerk, of the fifteenth inst., with the copies of the newspaper clippings, show the present status of the case, and the letters from this office what efforts have been made to have the board of health of West Winfield carry out the suggestions of the State Board.

I request instructions as to what further steps to take.

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

ALBANY, *October* 2, 1893.

To Mr. FRANK L. BRACE, *President of the Board of Health, Town of Winfield, P. O. West Winfield, Herkimer Co., N. Y.:*

Sir.— In accordance with and under the provisions of section 25 of article II of chapter 661 of the Laws of 1893, you, as presiding officer of the board of health of the town of Winfield, in the county of Herkimer, State of New York, are requested to convene the said board of health on Wednesday morning, the 4th day of October, 1893, to take certain definite proceedings

rning which the State Board of Health is satisfied that the
n recommended by it is necessary for the public good, and
thin the jurisdiction of the board of health of the town of
eld.

e secretary of this Board will meet with the board of health
e town of Winfield and explain the action recommended by
tate Board of Health.

Very respectfully, your obedient servant.

FLORENCE O. DONOHUE,
*President.*

LEWIS BALCH,
*Secretary and Executive Officer.*

ALBANY, *November* 20, 1893.

*e President of the Board of Health, Town of Winfield, P. O. Vest Winfield, Herkimer Co., N. Y.:*

—I transmit herewith two resolutions adopted at a meet-
f the State Board of Health, held in the city of New York
nber 17, 1893, and request your attention thereto.

ommissioner Schenck moved that the presiding officer of
ocal board of health of the town of West Winfield, N. Y.,
nd is hereby notified and requested by this Board to con-
such local board forthwith to rescind any order or orders
by it forbidding the use of the new Roman Catholic ceme-
it West Winfield, N. Y., as such, this Board being satisfied
the action so recommended is necessary for the public
Carried.

ommissioner Schenck moved that the secretary of this
l be, and he is hereby authorized and directed to com-
icate this action to said local board by transmitting a copy
e foregoing resolution to its presiding officer. Carried."

Very respectfully, your obedient servant.

LEWIS BALCH,
*Secretary.*

# Report on Outbreak of Diphtheria at Stockton.

56 Allen St., Buffalo, N. Y., *May* 9, 1893.

To Dr. Lewis Balch, *State Board of Health, Albany, N. Y.:*

Dear Sir.— Pursuant to, and by authority of your letter of May 5, 1893, the undersigned left Buffalo at noon, Saturday sixth, and proceeded to Stockton, Chautauqua county, N. Y., to investigate an outbreak of diphtheria, returning to Buffalo the afternoon of May eighth.

Stockton is a village of about 500 inhabitants in Chautauqua county, its nearest railroad station being Cassadaga, on the line of the Allegany Valley, Dunkirk and Pittsburg railroad, about two and one-half miles distant.

At Stockton, Saturday afternoon, the following members of the local board of health were seen; C. F. Chapman (supervisor), E. L. McCullough (justice of the peace), and W. H. Wakeman (town clerk),) and from them and others many of the facts herein recorded were gleaned. Owing to the illness of the local health physician, Dr. C. A. Rood, of Cassadaga, the board had no medical representative. I was referred to Dr. B. W. Seymour, of Stockton, who was in attendance upon the cases, and to whose kindness and consideration I am much indebted. From the above-mentioned gentlemen, from the death certificates, and from other sources it was learned that on April twenty-fifth Mr. Martin Bailey, while in Stockton, reported that his oldest son (case 1), Herman D. Bailey, age 18, was ill with tonsilitis, the case having then been so diagnosed by Dr. E. C. Hyde, of Lillie Dale (a neighboring town). This boy died April twenty-eighth, after an illness of about six days, the death certificate giving diphtheria as the cause of death. On the same day (April twenty-eight) and after learning of the nature of the malady, the local board of health held a meeting, so I am informed, and gave notice to Mr. Bailey that his house was to be considered

rantined, and that he and his family were to hold communication with his neighbors or the lents of Stockton, and that all infected clothing, bed-, etc., was to be destroyed by fire, all of which, I am rmed, was obeyed, except that, it is stated by a citizen of kton on the statement of another, which I could not verify, of the Bailey sons stayed with his sister after the above-tioned notification, and afterwards came to the village of kton and mingled with its people. In relation to this last-tioned son it is necessary to state that he was away, at rman, N. Y., when the disease first appeared at the Bailey estead, coming home soon thereafter but not entering the cted house, and remaining about the premises (the barn-l, etc.) only long enough to do the work necessary about stock, sheep, etc., and at night sleeping at a neighbor's se. This son, as well as the father, were, at the time of departure, Monday, May eighth, 1 p. m., still apparently not cted.

n April twenty-fourth (case 2), Eugene D. Bailey, age 6, her to case 1, was attacked, and died on April twenty-th, at 4 a. m., the certificate of death giving diphtheria as cause, and being signed by Dr. E. C. Hyde, of Lillie Dale, Y.

n April twenty-fifth (case 3), Hugh M. Bailey, age 10 years, me ill, and died on May second, at 5 p. m.; certificate by B. W. Seymour giving diphtheria as the cause of death. l on April twenty-ninth (case 4), Ellen M. Bailey, age 3 years onths, was attacked by the same disease, dying on May h, at 3 a. m.; certificate by Dr. B. W. Seymour.

ll of these cases were buried within twelve (12) hours after th, with no public services at the house, and no more attend-e at the grave than absolutely necessary. The bodies were injected or antisepticized in any way.

ll of the above cases were members of the family of one tin Bailey, and all had occurred at his house, situated about and one-half miles in a northerly direction from Stockton, on summit of a high ridge. At the time of my arrival one

case still remained at the Bailey homestead in the person of (case 5) Mrs. Marette D. Bailey, age 40 (wife of Martin Bailey), the disease being of a very grave type of diphtheria; the patient was under the care of Dr. Seymour, while another case was suspected to be diphtheretic in the person of (case 6) Ruth Bailey, age 13 years, who was at the house of her grandmother, Mrs. Ann Darby, in Cassadaga, N. Y., having been taken there from the Bailey house Wednesday, May third, in apparently good health, in order to save her, if possible, from the infection. This latter patient (case 6) was well until the morning of Saturday, May sixth, when she complained of a sore throat. I saw her Saturday night, and, while there was no membrane at that time in the oro-naso-pharynx, I at once diagnosed diphtheria because of the history, and the profund toxaemia.

There have been no cases of diphtheria in Stockton for a number of years, and there is no history or evidence that can be discovered of direct contact with another case having occurred to case 1, as the boy was at home the greater part of the past winter and spring.

The oldest son (case 1) was exposed on several nights immediately previous to his first symptoms to dampness and possible infection, having been engaged in fishing and wading and walking about on the bottom of a recently uncovered millpond, being engaged in collecting the fish left behind by the sudden withdrawal of this body of water. The circumstances of this pond incident are that in the valley immediately southwest and adjacent to the village there is a large millpond, covering several acres, a pond which has not been dry or its bottom uncovered for many years; the dam of this pond broke and allowed its waters to drain, leaving the conditions mentioned above.

An inspection of the Bailey homestead shows the following: It is a group of frame buildings, including house, barn, and outhouses, the nearest neighbor being fully 1,000 feet away.

The relation of the house and its surroundings is shown in the inclosed diagram.

The yard immediately surrounding the house is in good condition; on the southerly side of the house there is an old cistern

led to a depth of four feet, with muddy, not foul, water, in ıich a few ducks have been allowed to swim. This cistern is pplied by rain gathered from the roofs. It had heretofore en kept covered, but about a month ago was opened to allow e ducks to have access to it; the cistern had wood sides and soft bottom.

In the house towards the rear, in what might be termed the mmer kitchen, is a well, which has stone sides, reaching to the or of this room, and all so tightly boarded up as to preclude amination. The water of this well has been in use for many ars, and is apparently sweet and pure, a bottle of the water ing now in my possession, subject to your orders. There has en no infectious or malarious disease in the Bailey house for ıny years. In the rear of the house, about thirty (30) feet ›m the well, is the privy, a wooden shed included in the house, ıd only reached through it. This privy has no vault, but is nstructed in such a manner that there is immediately beneath e seat a box, which is emptied and cleaned at irregular inter- ıls. This privy was not at all offensive. The house itself is a ro-story building, rather large, containing numerous rooms, ıd connected by a wood shed with southerly end of the barn, ıe latter being about thirty feet in the rear. The cellar of the ouse is under the northerly half only, has cement floor and :one walls, and is clean and sweet, though it is said to have ›ntained, in the early spring, a quantity of decayed potatoes.

The interior of the house is clean and sanitary. The soil on 'hich the house is situated is underlaid at a depth of eighteen ıches with a stratum of "blue clay" and slopes from the front ackward, causing, for example, the privy to be four and a half et lower than the top of the well. The well pierces this layer ' clay, and is stoned and mortared at the upper surface of the ay. There were in the house at the time of my visit, Martin ıiley, Marette Bailey (in bed with diphtheria), and two nurses. The barn is a large, long structure extending north and uth, and was in no way in an objectionable condition, except follows: That along the westerly side of the barn, extending

its full length, there was a low sheep stall, which had contai
a large flock of sheep all winter, and which held on its flo
layer of sheep manure probably about three (3) feet deep,
accumulation of the past winter. This manure was not o
sive. The local board of health had ordered this flock of sh
turned into the meadow directly after the death of case
which was done. The barnyard behind the barn was, in
rather cleaner than an average country barnyard, where ca
sheep, etc., are allowed to stand.

Under the sheep stall (so placed because of the declivit
the land), was a cellar filled with straw, the straw being
and clean. There were four horses about the barn, as we
two cows, the latter supplying the milk for the family, and
of it being used elsewhere (other than on these premises).
of these animals, the horses and cows, had been and still
healthy as the time of my inspection.

A large number of the sheep had died during the past
ter, beginning last December, since which time, I am le
believe, about fifty (50) have died. The history of this m
is that the animals became weak, refused food, and on exe
became breathless, all dying in from two to five days. It
rumored about the village that these sheep had died from
throats, but in so far as I could learn there was nothi
substantiate this statement, either in the symptoms o
sheep, or in the results of my examinations. I made aut
on the last two animals (a doe and a lamb) and found in
a well-marked broncho-pneumonia, with slight increas
mucus in the trachea, and naso-laryngeal passages; there w
false membrane formation anywhere to be seen, and the ki
and other structures were normal.

The bodies of these sheep were ordered buried, as w
those which had been thrown on the surface in a patch of
about one-half a mile from the house. The wool from s
of the dead sheep was removed by the oldest son (case 1)
time prior to his illness, and had been stored in two bags
barn.

The kitchen drain from the house was, by means of
with an iron conductor pipe to the surface back of the

he pipe emerging about forty (40) feet from its origin. The rainings had cut a slight furrow, but this was, at the time of y visit, not offensive; it was, however, suggested, to have this urrow covered by unslacked lime.

Mr. Bailey informed me that his children had attended school ntil the day his son was taken ill, after which the children ere kept at home; the school was closed immediately on the eceipt of information showing the cases to be diphtheretic, and as not been opened since. There have been, so far as I could arn, no cases of sore throat, etc., amongst any of these school hildren before or since the school closed.

The physicians in charge of these cases have taken due pre- autions looking to the impossibility of themselves spreading the ontagion, i. e., changing clothing, etc.

The case at Cassadaga, Ruth Bailey (case 6), is in the house her grandmother, Mrs. Darby, who is the sole occupant of is house; the patient is in a small well isolated room upstairs nd is in charge of a nurse. This house was placarded and all ommunication with the people about was interdicted.

The origin of cases 2, 3, 4, 5 and 6 may, in my stimation, be traced easily to case 1; to determine e source of case 1 is not so easy. It does not seem robable that the disease arose from the sheep sickness, r the malady in the animals was quite different, and ad continued so long before the diphtheria appeared. The elation of the well and the open cistern are such as might give se to the first case, though I doubt very much that this was the se. To my mind the most rational explanation is that the fection came from the uncovered pond.

Not having explicit directions or instructions as to my power on the request of the members of the local board of health, ade the following suggestions all of which the said board pproved and agreed to follow:

That the board appoint at once a physician to act as health ysician during the illness and incapacity of their regular alth officer.

That the quarantine of both the Bailey and Darby houses be continued.

That all clothing, bedding, etc., used about these cases be destroyed by fire.

That the Bailey house be whitewashed throughout when the last case is disposed of.

That the floors, furniture, sills, etc., of the Bailey house be washed with a solution of bichloride of mercury 1-1000 and that the infected room in the Darby house be treated in a like manner.

That any papered walls in these houses be first washed with the bichloride solution, and afterward repapered.

That any clothing which was to be saved, as of nurses, etc., be fumigated in a closed compartment with sulphur, and afterwards hung out in the sun and fresh air for two or three days.

That all expectoration, etc., from the patients be received in a bichloride, or other equally efficient antiseptic solution.

That the manure from the sheep stall in the Bailey barn be removed, and plowed under, and that while removing it, it be kept wet.

That the sheep stall in the said barn be whitewashed.

That all of the dead sheep be buried immediately.

That if any further sickness appears amongst the sheep the sick ones to be isolated.

That the water from the well in the Bailey house be not for a while used, but that the water be taken from a driven well situated opposite the house on the other side of the road.

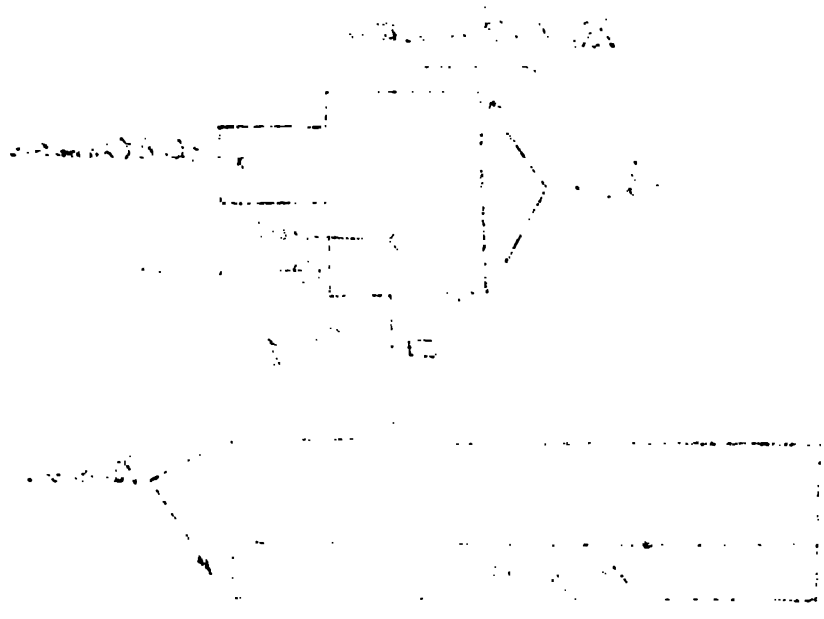
That the privy be cleaned and sprinkled with chloride of lime.

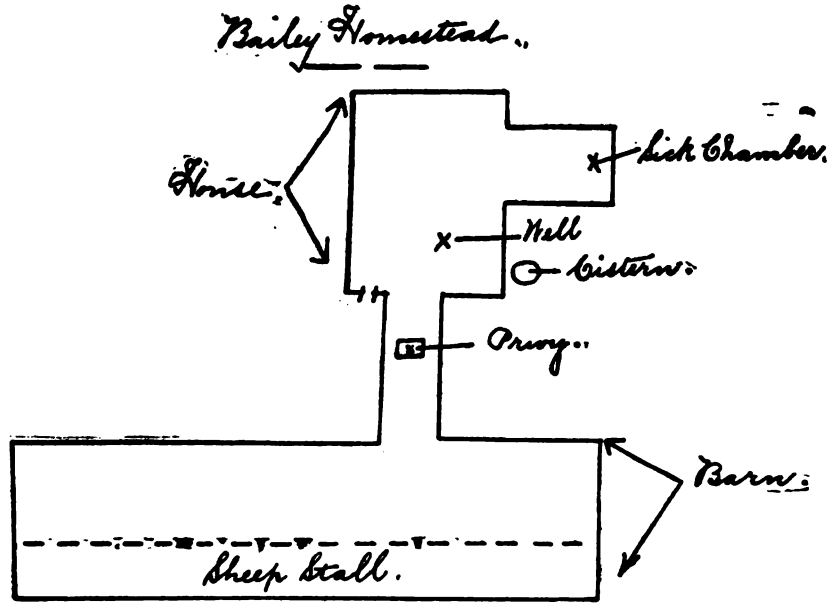
That the open kitchen drain be covered with unslaked lime.

That the open cistern be filled at once.

That the wool said to have been "pulled" from the dead sheep be burned.

That quarantine of each house be continued for two (2) weeks after the ending of the last case, and that at such time the patients and nurses, etc., be given a sponge bath of some antiseptic water.




Bailey Homestead.
House.
Lick Chamber.
Well
Cistern.
Privy.
Barn.
Sheep Stall.

hat all of these precautions, in so far as possible, be applied the Darby house.

hat the dam of the mill pond be repaired at once, in order lood the exposed surfaces.

ll of which is respectfully submitted by

Your obedient servant.

W. H. BERGTOLD.

# SANITARY CONDITION OF THE STATE

AND

# SUMMARY OF MORTALITY REPORTED DURING THE YEAR.

# nitary Condition of the State and Summary of Mortality Reported During the Year.

By F. C. Curtis, M. D.

Vith the exception of the cities of New York, Brooklyn, ıkers, Albany and Buffalo, which are exempt by the law, all cities, incorporated villages and towns in the State are uired to send to the State Board of Health once every month certificates of births, marriages and deaths occurring within ir precincts. From these exempted cities monthly reports are ɛived of their mortality, and of the causes of death, these orts being voluntary on their part, but reliably complete. ın the rest of the State returns have been received during the r from every town except twelve, which are as follows:

| | Population. |
|---|---|
| ton, St. Lawrence county | 855 |
| o, Cattaraugus county | 492 |
| ɔe, Hamilton county | 532 |
| ısia, Herkimer county | 2,278 |
| ıa, Allegany county | 1,371 |
| rd, Allegany county | 582 |
| man, Chenango county | 549 |
| ıth Valley, Cattaraugus county | 749 |
| mouth, Chenango county | 1,118 |
| ıelic, Chenango county | 1,243 |
| onia, Livingston county | 2,947 |
| ina, Delaware county | 927 |

he combined population of these towns is a little less than 00. With the additional exception of the city of Dunkirk, ı which, until near the close of the year, no returns have been received, every portion of the State has been making ılar reports of its mortality.

The law is so emphatic in prohibiting the burial of a dead body until a burial permit has been secured from the local board of health, that it is an easy matter to secure a record of every death. This depends on the execution of the law by the board, and it is not enforced by all; by the great majority, however, it is, and it is probable that there are comparatively few deaths in this State that fail of record.

It is a requirement of the law in this State that the original certificates of death, as well as of birth and marriage, shall be sent to the office of the State Board of Health, where, after registry, they are placed on file. Prior to this they are classified by causes as well as by localities, and a monthly bulletin is published of these. This bulletin is mainly made up from these original certificates — it is so entirely, except in the case of some of the larger places, from which a tabulated card report is made by the health officer for use in the bulletin, prior to sending in the certificates. This publication is for the most part based on the original certificates of death, as sent to this office.

The population of the several health districts, upon which the death rates are based, are those taken from the State enumeration of 1892. The only changes made have been to add to a few of the larger cities the estimated increase for the year. The population of the entire State is thus estimated to be 6,703,000; deducting from which the 20,000 population not represented by report during the year, we have 6,683,000 as the population of the State represented in the bulletin.

At a later place in this volume will be found a report of the mortality, with the population, of each health district in the State for the year, arranged by counties. In the bulletin it would be impossible and useless to attempt to publish monthly each of this large number, which amounts to over 1,300; only about 150 of the larger cities, villages and populous towns are specifically reported, the remainder being classed together. There is one material advantage in this, in that it places the closely-inhabited parts of the State in a class by themselves and apart from the sparsely-inhabited rural areas.

Further, to describe the plan of the monthly bulletin, upon which to a considerable degree the data for this summary is

ıed, for its purpose the State has been divided into a number sanitary districts, both for convenience and instruction. ıese districts have, to a considerable degree, individual peculiities as to diversity and other characteristics of population, ıd as to climate and topography. As the State extends over 'e degrees of latitude and eight of longitude, has a large etropolitan district and several cities above 100,000 popula)n, at the same time wilderness regions, with hardly one habitant to the square mile; portions devoted largely to manucturing, and traversed by the highways of travel, with others mote from them; with diversity of topography, elevation, proxiity to the sea or lakes, a classification of its territory is sirable, and is, to a good degree, effected in the one that has en followed during the nine or ten years that the publication is been carried on.

There are eight sanitary districts, which, following county ıes, are as follows:

I. The Maritime District, which includes New York, Long land, Staten Island and Westchester county, made up of the etropolis and its suburbs, and all of the State in proximity to ıe ocean.

II. The Hudson Valley District, which includes all of the )unties on either side of the Hudson river except Westchester, ) and including Albany and Rensselaer, and contains numerous ties of medium size, is much of it on the highways of travel om either direction, and has a fairly well populated farming )untry.

III. The Adirondack and Northern District, which includes ıe northern section of the State, the counties of Washington, Warren, Hamilton, Essex, Clinton, Franklin, St. Lawrence, efferson and Lewis; it takes in the whole St. Lawrence river )rder, the Adirondack wilderness, the highest elevations in the tate, and the source of the chief streams.

IV. The Mohawk Valley District, which includes the counties Saratoga, Schenectady, Schoharie, Montgomery, Fulton, Hermer and Oneida, a populous manufacturing and rich agricultral district, along the line of the Mohawk river, and traversed the main trunk railroad lines.

V. The Southern Tier District, which contains the counties along the southern border of the State, of Broome, Tioga, Chemung, Steuben, Allegany, Cattaraugus and Chautauqua, through which the Erie railroad runs, along which are numerous large towns, but which has large areas of elevated and sparsely settled country.

VI. The East Central District, including the counties of Sullivan, Delaware, Otsego, Madison, Chenango, Onondaga and Cortland, is composed almost entirely of an agricultural population with the large city of Syracuse, and in its southern portion much elevated and sparsely settled, and even wilderness, region.

VII. The West Central District, including Cayuga, Tompkins, Seneca, Schuyler, Ontario, Yates, Livingston, Genesee and Wyoming counties, having numerous good-sized villages, but no place above 25,000 population, and made up, to a large degree of an agricultural population, containing most of the mid-State lakes.

VIII. The Lake Ontario and Western District, including Oswego, Wayne, Monroe, Orleans, Niagara and Erie counties, which lie along the great lakes, and contain the large cities of Buffalo and Rochester, and, next to the maritimes, having the largest proportion of urban population than either of the other districts.

The following table shows the area respectively of these sanitary districts, and the comparitive density of their population

RELATIVE AREA AND DENSITY OF POPULATION OF THE SANITARY DISTRICTS.

| SANITARY DISTRICTS. | Area in square miles. | Entire population. | Population per square mile. | Percentage of city population |
|---|---|---|---|---|
| Maritime | 2,286 | 3,350,600 | 1,465 | 87 |
| Hudson Valley | 5,872 | 685,000 | 117 | 49 |
| Adirondack and Northern | 15,080 | 387,000 | 26 | 7 |
| Mohawk Valley | 4,731 | 376,100 | 80 | 30 |
| Southern Tier | 6,545 | 406,000 | 62 | 28 |
| East Central | 6,555 | 380,600 | 59 | 23 |
| West Central | 4,746 | 311,500 | 65 | 13 |
| Lake Ontario and Western | 4,378 | 792,200 | 181 | 64 |
| Entire State | 50,200 | 6,689,000 | 133 | 73 |

This table gives the relative density of population in the sanitary districts, although it should be noted that all incorporated cities, irrespective of size, are included. There are four cities having a population of above 150,000; two of about 100,000; two of about 50,000; sixteen between 16,000 and 35,000, and eleven under 15,000. The total population of the thirty-five incorporated cities of the State is 4,045,000, of which 3,536,000 is in the eight cities of New York, Brooklyn, Buffalo, Rochester, Albany, Syracuse, Troy and Utica, and the remaining half million in the other twenty-seven cities; all but one or two of these have 10,000 population and upwards, but there are several villages whose population is above 10,000. The death rate of districts will materially vary, according to the proportion of metropolitan population, and will be affected differently by a city population accumulated in one or two large cities from what it would be by the same amount of city population distributed into a large number of small cities. This will appear later in this report. The percentages of city population as given in the table, however, fairly represents their relative relations to urban conditions, the maritime and the Lake Ontario and Western districts, in which the large cities are situated, largely predominating in their percentages as given, the Hudson Valley district closely following.

## Comparative Mortality in the Sanitary Districts.

To show the effect, if any should appear, of the varying conditions existing in the sanitary districts, on the various causes of death, the following tables have been prepared, showing the number of deaths in the districts for the twelve months, ending with November, 1893, and also the proportion of deaths from each to the whole number.

*Totals of mortality from various causes in the sanitary districts.*

| DISTRICTS. | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maratime district | 3,285,000 | 74,731 | 22 75 | 29,468 | 39.4 | 191.50 | 641 | 653 | 344 | 234 | 995 | 536 | 231 | 917 |
| Hudson Valley district | 685,150 | 12,138 | 17.72 | 3,103 | 25 6 | 168.97 | 64 | 285 | 68 | ..... | 232 | 46 | 26 | 78 |
| Adirondack and Northern district | 386,680 | 4,299 | 11.12 | 895 | 20.8 | 135.88 | 14 | 93 | 9 | .... | 42 | 15 | 9 | 38 |
| Mohawk Valley district | 376,100 | 5,424 | 14.42 | 1,208 | 22.3 | 145.10 | 19 | 111 | 15 | .... | 63 | 22 | 14 | 27 |
| Southern Tier district | 406,000 | 4,729 | 11.65 | 916 | 19.4 | 176.99 | 23 | 103 | 7 | ..... | 71 | 52 | 15 | 20 |
| East Central district | 386,600 | 5,378 | 13.91 | 1,124 | 20.9 | 149.68 | 19 | 93 | 18 | ..... | 28 | 73 | 16 | 36 |
| West Central district | 311,000 | 3,729 | 11 99 | 583 | 15 6 | 125 50 | 12 | 66 | 15 | .... | 31 | 17 | 14 | 16 |
| Lake Ontario and Western district | 788,750 | 12,409 | 15.73 | 4,266 | 34.4 | 201.71 | 61 | 270 | 80 | .. ... | 258 | 40 | 38 | 80 |

*Totals of mortality from various causes in the sanitary districts* — (Continued).

| DISTRICTS. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 3,769 | 5,991 | 13,233 | 8,400 | 606 | 5,066 | 4,568 | 4,619 | 7,592 | 1,614 | 3,068 | 1,539 | 10,115 |
| Hudson Valley district | 562 | 690 | 1,762 | 1,249 | 113 | 884 | 614 | 1,118 | 1,597 | 355 | 551 | 789 | 1,055 |
| Adirondack and Northern district | 175 | 189 | 539 | 455 | 43 | 340 | 192 | 406 | 511 | 155 | 165 | 483 | 424 |
| Mohawk Valley district | 216 | 300 | 629 | 567 | 38 | 405 | 318 | 524 | 735 | 206 | 241 | 508 | 466 |
| Southern Tier district | 305 | 241 | 526 | 378 | 49 | 379 | 240 | 466 | 586 | 171 | 252 | 473 | 372 |
| East Central district | 257 | 265 | 645 | 543 | 48 | 429 | 260 | 565 | 673 | 194 | 243 | 529 | 444 |
| West Central district | 149 | 148 | 367 | 396 | 35 | 312 | 198 | 382 | 513 | 154 | 180 | 427 | 297 |
| Lake Ontario and Western district | 509 | 1,222 | 1,398 | 1,181 | 119 | 1,013 | 527 | 949 | 1,673 | 388 | 640 | 770 | 1,248 |

*Table showing the number of deaths in* 1893, *in each* 1,000 ***population from the various causes as classified in the bulletin.***

| DISTRICTS. | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 3,285,000 | 74,731 | 22.75 | 8.97 | 39.4 | 191.50 | 0.20 | 0.30 | 0.10 | 0.07 | 0.30 | 0.16 | 0.07 | 0.28 |
| Hudson Valley district | 685,150 | 12,138 | 17.72 | 4.53 | 25.6 | 168.97 | 0.09 | 0.42 | 0.10 | 0.00 | 0.34 | 0.07 | 0.04 | 0.11 |
| Adirondack and Northern district | 386,680 | 4,298 | 11.12 | 2.31 | 20.8 | 135.89 | 0.04 | 0.24 | 0.02 | 0.00 | 0.11 | 0 04 | 0.02 | 0.10 |
| Mohawk Valley district | 376,100 | 5,424 | 14.42 | 3.21 | 22.3 | 145.10 | 0.05 | 0.30 | 0.04 | 0.00 | 0.17 | 0.06 | 0.04 | 0.07 |
| Southern Tier district | 406,000 | 4,729 | 11.65 | 2.26 | 19.4 | 176.99 | 0.06 | 0.25 | 0.02 | 0.00 | 0.17 | 0.18 | 0.04 | 0.05 |
| East Central district | 386,600 | 5,378 | 13.91 | 2.91 | 20.9 | 149.68 | 0.05 | 0.34 | 0.05 | 0.00 | 0.07 | 0.19 | 0.04 | 0.09 |
| West Central district | 311,000 | 3,729 | 11.99 | 1.87 | 15.6 | 125.50 | 0.04 | 0.21 | 0.05 | 0.00 | 0.10 | 0.05 | 0.05 | 0.05 |
| Lake Ontario and Western district | 788,750 | 12,409 | 15.73 | 5.41 | 34.4 | 201.71 | 0.08 | 0.34 | 0.04 | 0.00 | 0.32 | 0.05 | 0.05 | 0 10 |

*Table showing the number of deaths in* 1893 — (Concluded).

| DISTRICTS. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 1.15 | 1.82 | 4.03 | 2.56 | 0.18 | 1.54 | 1.39 | 1.41 | 2.31 | 0.49 | 0.93 | 0.47 | 3.08 |
| Hudson Valley district | 0.62 | 1.01 | 2.57 | 1.82 | 0.16 | 1.29 | 0.90 | 1.63 | 2.33 | 0.52 | 0.80 | 1.15 | 1.54 |
| Adirondack and Northern district | 0.45 | 0.49 | 1.39 | 1.18 | 0.11 | 0.88 | 0.50 | 1.05 | 1.32 | 0.40 | 0.43 | 1.25 | 1 10 |
| Mohawk Valley district | 0 57 | 0.80 | 1.67 | 1.51 | 0.10 | 1.08 | 0.85 | 1.39 | 1.95 | 0.55 | 0.64 | 1.35 | 1.24 |
| Southern Tier district | 0.75 | 0.59 | 1.30 | 0.93 | 0.12 | 0.93 | 0.59 | 1.15 | 1.44 | 0.42 | 0.62 | 1.17 | 0.92 |
| East Central district | 0.66 | 0.69 | 1.67 | 1.40 | 0.12 | 1.11 | 0.67 | 1.46 | 1.74 | 0.50 | 0 63 | 1.37 | 1.15 |
| West Central district | 0.48 | 0.48 | 1.18 | 1.27 | 0.11 | 1.00 | 0.64 | 1.23 | 1.65 | 0.50 | 0.58 | 1.37 | 0.95 |
| Lake Ontario and Western district | 0.63 | 1.55 | 1.77 | 1.50 | 0.15 | 1.28 | 0.67 | 1.20 | 2.12 | 0.49 | 0.81 | 0 98 | 1.58 |

## Tables Showing the Number of Deaths from Typhoid Fever, Diphtheria, Diarrhœal Diseases, and Consumption in the Sanitary Districts.

### FROM TYPHOID FEVER.

| | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. |
|---|---|---|---|---|---|---|---|---|---|
| In each 1,000 deaths there were in the -- | | | | | | | | | |
| Maritime district | 8.87 | 8.41 | 8.55 | 8.66 | 9 65 | 9.26 | 8.81 | 8.50 | 8.75 |
| Hudson Valley district | 27.85 | 27.28 | 27 27 | 32.22 | 23.14 | 20.36 | 30.47 | 18.86 | 23.65 |
| Adirondack and Northern district | 19.35 | 20.58 | 24.00 | 18.34 | 23.01 | 13.33 | 19.60 | 19.63 | 20.40 |
| Mohawk Valley district | 19.53 | 21.91 | 20.45 | 21.98 | 21.32 | 30.71 | 27.76 | 27.69 | 21.45 |
| Southern Tier district | 23.55 | 26.00 | 30 40 | 28.38 | 33.92 | 23.61 | 28.39 | 21.69 | 21.75 |
| East Central district | 19.64 | 27.45 | 20.50 | 28.65 | 24 00 | 18.50 | 26.40 | 14.22 | 18.23 |
| West Central district | 24.78 | 20.42 | 19.05 | 17.28 | 19.53 | 17.49 | 17.57 | 14.03 | 15.90 |
| Lake Ontario and Western district | 20.85 | 19 18 | 19.05 | 23.07 | 21.28 | 21.58 | 23.55 | 22.76 | 21.04 |
| The entire State | 13.27 | 13.47 | 13.75 | 14.18 | 14.86 | 13.79 | 15 52 | 13.25 | 13.51 |

### FROM DIPHTHERIA.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 58 28 | 71.43 | 75.40 | 67.95 | 63.00 | 49.10 | 46.41 | 47.90 | 51.14 |
| Hudson Valley district | 64.87 | 61.93 | 58.50 | 64.27 | 65.00 | 13.30 | 30.96 | 56.36 | 41.65 |
| Adirondack and Northern district | 72.08 | 43.35 | 49 00 | 46.57 | 33.87 | 37.90 | 34.13 | 29.23 | 40 58 |
| Mohawk Valley district | 44.74 | 36 80 | 67.40 | 65.52 | 52.12 | 52.72 | 31.45 | 45.63 | 38.00 |
| Southern Tier district | 27.57 | 41 03 | 44.40 | 34.18 | 34.54 | 35.28 | 41 97 | 50.26 | 60.68 |
| East Central district | 32 74 | 40.34 | 30.60 | 43.10 | 33.79 | 22.78 | 17.40 | 31.35 | 46.78 |
| West Central district | 22.63 | 20.42 | 30.80 | 23.38 | 27.07 | 16.38 | 8.91 | 19 31 | 43.35 |
| Lake Ontario and Western district | 49 53 | 58.25 | 58.67 | 51.09 | 35.78 | 32.64 | 42 03 | 57.11 | 39.38 |
| The entire State | 56.06 | 64.48 | 67.24 | 61.73 | 56 12 | 42.07 | 40 78 | 46.86 | 48 00 |

### FROM DIARRHŒAL DISEASES.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 106.00 | 91.31 | 107.00 | 91.58 | 86.04 | 82.58 | 82 29 | 86.10 | 80.00 |
| Hudson Valley district | 62.63 | 63 48 | 71.80 | 67.18 | 61.30 | 40.64 | 58.97 | 59 56 | 56.67 |
| Adirondack and Northern district | 46.54 | 58.06 | 63.00 | 60.55 | 62.00 | 43.28 | 69.23 | 45.58 | 43.65 |
| Mohawk Valley district | 57.65 | 53 93 | 73.60 | 61 60 | 65.90 | 56.39 | 52 60 | 41.54 | 53.26 |
| Southern Tier district | 55 70 | 59 88 | 71.20 | 54.02 | 58.11 | 52.72 | 53 37 | 41 05 | 50 00 |
| [illegible] | 59 74 | 54.20 | 64.60 | 72.71 | 80.65 | 57.34 | 68 47 | 46.29 | 48 13 |
| [illegible] | 49 67 | 54 47 | 64.30 | 37.96 | 44.53 | 44.54 | 32.57 | 28.51 | 37.90 |

CONSUMPTION.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 143.58 | 140.52 | 121.80 | 124.10 | 123.20 | 127.73 | 119.11 | 110.60 | 111.30 |
| Hudson Valley district | 144.83 | 137.00 | 134.85 | 114.20 | 130.93 | 121.93 | 110.00 | 104.13 | 108.20 |
| Adirondack and Northern district | 147.82 | 137.90 | 123.00 | 110.91 | 121.76 | 108.50 | 111.35 | 106.31 | 105.25 |
| Mohawk Valley district | 143.67 | 133.80 | 111.25 | 115.36 | 113.50 | 112.40 | 108.08 | 104.00 | 114.00 |
| Southern Tier district | 114.25 | 100.35 | 94.40 | 100.73 | 88.49 | 89.50 | 88.64 | 86.25 | 77.00 |
| East Central district | 139.93 | 131.53 | 118.40 | 110.61 | 110.95 | 108.78 | 106.78 | 97.69 | 98.00 |
| West Central district | 155.08 | 141.06 | 115.40 | 113.20 | 110.35 | 106.83 | 105.94 | 101.40 | 105.93 |
| Lake Ontario and Western district | 130.00 | 125.77 | 105.55 | 108.60 | 104.46 | 106.12 | 102.94 | 108.28 | 98.35 |
| The entire State | 139.76 | 137.66 | 120.35 | 118.55 | 120.01 | 118.37 | 109.50 | 106.66 | 105.94 |

## Total Deaths.

The whole number of deaths reported in time to be published in the bulletin, for the year ending with November, was 122,841. This represents an average daily death rate of 336, against 350 in 1892; 335 in 1891, and 325 in 1890.

Besides there have been received* 4,450 delayed returns not published in the bulletin. This is about the average number of delayed returns in years past. With these added the average daily number of deaths reported for each month, from December, 1892, to December, 1893, is as follows:

| | Total deaths. | Average daily death rate. |
|---|---|---|
| December | 9,865 | 318 |
| January | 10,878 | 351 |
| February | 9,700 | 347 |
| March | 12,503 | 403 |
| April | 12,276 | 409 |
| May | 11,012 | 355 |
| June | 9,095 | 303 |
| July | 12,685 | 409 |
| August | 11,444 | 370 |
| September | 9,700 | 323 |
| October | 9,281 | 300 |
| November | 8,758 | 291 |

The total number of deaths, including all reported, is 126,897, or a daily average of 348.

Compared with preceding years, the daily death rates for each year were as follows:

In 1886, the average daily death rate was..... 238
In 1887, the average daily death rate was..... 264
In 1888, the average daily death rate was..... 286
In 1889, the average daily death rate was..... 288
In 1890, the average daily death rate was..... 325
In 1891, the average daily death rate was..... 335
In 1892, the average daily death rate was..... 350
In 1893, the average daily death rate was..... 348

The death rate per 1,000 population for the year was 19.00 all returns being included. In 1892, it was 20.35; in 1891, it was 20.25; in 1890, it was 19.65; and in 1889, it was 19.60. The estimated death rate is the lowest that it has been for five years.

The following shows the total number of deaths for each of the past six years as reported in the bulletin, with the number of deaths from each cause as classified in it:

*The number of delayed returns for October and November is estimated, the probable number yet to come not having been received at the time of this writing.

*Totals of Mortality as Reported in the Bulletin for Five Years.*

| YEAR. | Total number of deaths. | Representing average daily death rate of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cer. bro-spinal fever. | Typhoid fever. | Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1888 | 103, 969 | 300 | 38, 347 | 36.3 | 216 00 | 499 | 1, 449 | 842 | 211 | 2, 378 | 850 | 344 | 902 |
| 1889 | 104, 119 | 300 | 38, 427 | 36.8 | 210.34 | 392 | 1, 571 | 743 | 43 | 2, 312 | 1, 004 | 304 | 1, 333 |
| 1890 | 118, 552 | 325 | 37, 063 | 31.2 | 164.80 | 482 | 1, 578 | 739 | 4 | 833 | 1, 077 | 296 | 1, 169 |
| 1891 | 122, 396 | 335 | 42, 352 | 34.5 | 178.32 | 687 | 1, 900 | 631 | 4 | 2, 173 | 1, 239 | 370 | 895 |
| 1892 | 128, 015 | 350 | 42, 703 | 33.4 | 181.24 | 657 | 1, 700 | 690 | 126 | 2, 228 | 1, 346 | 498 | 880 |
| 1893 | 122, 841 | 336 | 41, 044 | 33.8 | 181.85 | 853 | 1, 674 | 506 | 234 | 1, 715 | 801 | 368 | 1, 212 |

*Total Mortality, etc.* — (Concluded).

| YEAR. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1888 | 6,710 | 8,765 | 13,569 | 12,388 | 1,049 | 6,153 | 4,873 | 6,353 | 11,055 | 2,473 | 3,792 | 8,178 | 11,129 |
| 1889 | 5,930 | 8,271 | 13,590 | 12,280 | 991 | 6,472 | 5,727 | 6,814 | 11,233 | 2,632 | 3,901 | 6,102 | 12,383 |
| 1890 | 4,054 | 8,498 | 17,938 | 13,917 | 926 | 7,624 | 5,671 | 7,320 | 11,902 | 2,851 | 4,545 | 5,485 | 18,747 |
| 1891 | 4,844 | 9,143 | 19,722 | 13,500 | 1,038 | 8,073 | 6,363 | 9,322 | 12,983 | 2,989 | 4,797 | 6,252 | 15,247 |
| 1892 | 5,070 | 9,187 | 21,426 | 13,416 | 1,153 | 8,991 | 6,523 | 9,035 | 14,060 | 3,189 | 5,555 | 6,701 | 14,764 |
| 1893 | 5,942 | 9,046 | 19,099 | 13,469 | 1,052 | 8,828 | 6,917 | 9,032 | 13,880 | 3,237 | 5,337 | 5,518 | 14,422 |

imating the yearly increase in the population of the State ,000, the following exhibits the comparative mortality for st six years:

888 there was one death in every 57.68 of the population.
889 there was one death in every 58.88 of the population.
890 there was one death in every 52.75 of the population.
891 there was one death in every 52.10 of the population.
892 there was one death in every 50.78 of the population.
893 there was one death in every 52.67 of the population.

## Influence of Season in Mortality.

months in which the greatest mortality was reported March and July. This agrees with the average mortality ne years. July is the month of largest mortality and t not infrequently comes next, its mortality not varying from that of March.

month of least mortality is November. This is invariably se. June is next and October next, the mortality of June ctober not varying greatly.

following tables show the number of deaths from all for each month for the past nine years. The first gives ars in consecutive order, by which the course of occurrence lisease may be taken back month by month; the second of a comparison of the respective months for each year of ries by placing them all together:

# MORTALITY OF THE STATE

## TOTALS OF MORTALITY OF THE

| MONTHS. | Total number of deaths. | Representing average daily death rate of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small-pox. | Scarlet fever. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1887. | | | | | | | | | | |
| December ..... | 7,888 | 254 | 2,497 | 31.6 | 190.00 | 37 | 104 | 78 | 12 | 204 |
| 1888. | | | | | | | | | | |
| January ..... | 8,742 | 282 | 2,848 | 32.5 | 176.75 | 37 | 64 | 71 | 21 | 265 |
| February ..... | 8,637 | 298 | 2,748 | 32.0 | 154.00 | 44 | 84 | 49 | 10 | 239 |
| March ..... | 9,550 | 308 | 2,849 | 30.0 | 147.37 | 55 | 81 | 53 | 25 | 239 |
| April ..... | 8,129 | 271 | 2,468 | 30.0 | 150.00 | 75 | 45 | 53 | 40 | 250 |
| May ..... | 9,032 | 291 | 2,891 | 32 1 | 141 75 | 62 | 59 | 68 | 42 | 277 |
| June ..... | 8,368 | 279 | 3,306 | 39.7 | 227.34 | 40 | 45 | 56 | 11 | 233 |
| July ..... | 10,300 | 332 | 5,363 | 51.0 | 380.60 | 35 | 73 | 51 | 2 | 141 |
| August ..... | 10,017 | 323 | 4,867 | 48.7 | 345.82 | 29 | 174 | 87 | 6 | 120 |
| September ..... | 8,433 | 281 | 3,877 | 45.9 | 291.82 | 31 | 279 | 102 | 12 | 114 |
| October ..... | 7,886 | 254 | 2,522 | 32.0 | 196.37 | 23 | 288 | 109 | 12 | 135 |
| November ..... | 6,087 | 233 | 2,111 | 30.2 | 174.88 | 21 | 153 | 61 | 8 | 171 |
| Totals ..... | 103,969 | 285 | 38,347 | 36.5 | 216.00 | 499 | 1,449 | 842 | 211 | 2,378 |

## TOTALS OF MORTALITY OF

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1888. | | | | | | | | | | |
| December ..... | 8,369 | 269 | 2,495 | 29.8 | 179.00 | 28 | 138 | 49 | 13 | 278 |
| 1889. | | | | | | | | | | |
| January ..... | 8,437 | 270 | 2,983 | 35.2 | 170.32 | 35 | 89 | 51 | 15 | 242 |
| February ..... | 8,183 | 292 | 2,933 | 35.8 | 150.00 | 32 | 71 | 30 | 9 | 324 |
| March ..... | 9,547 | 308 | 3,381 | 35.4 | 167 50 | 43 | 69 | 47 | 1 | 366 |
| April ..... | 9,078 | 303 | 3,116 | 34.5 | 174.30 | 45 | 78 | 64 | 2 | 363 |
| May ..... | 8,357 | 270 | 2,773 | 33 2 | 155.91 | 42 | 63 | 37 | .. | 276 |
| June ..... | 8,370 | 279 | 3,632 | 43.4 | 241 82 | 27 | 45 | 59 | .... | 154 |
| July ..... | 10,806 | 349 | 5,533 | 51.4 | 352.20 | 46 | 117 | 61 | 1 | 68 |
| August ..... | 9,373 | 302 | 4,059 | 40.7 | 280 75 | 33 | 224 | 96 | .. | 54 |
| September ..... | 8,264 | 275 | 3,179 | 38 4 | 234.26 | 19 | 247 | 98 | 2 | 55 |
| October ..... | 8,050 | 260 | 2,288 | 28 4 | 177.00 | 21 | 261 | 87 | .... | 57 |
| November ..... | 7,285 | 243 | 2,025 | 27.7 | 139 60 | 21 | 169 | 63 | .. | 56 |
| Totals ..... | 104,119 | 285 | 38,427 | 36.8 | 210.34 | 392 | 1,571 | 742 | 43 | 2,312 |

## TOTALS OF MORTALITY OF THE

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1889. | | | | | | | | | | |
| December ..... | 8,483 | 274 | 2,311 | 27.4 | 126 35 | 38 | 117 | 53 | .. | 73 |
| 1890. | | | | | | | | | | |
| January ..... | 13,020 | 420 | 2,227 | 18.2 | 89.70 | 29 | 117 | 62 | ... | 93 |
| February ..... | 9,130 | 326 | 2,370 | 27.5 | 118.00 | 37 | 94 | 39 | .. | 96 |
| March ..... | 9,844 | 318 | 2,772 | 30.0 | 117.35 | 47 | 72 | 36 | 2 | 90 |
| April ..... | 9,488 | 316 | 2,826 | 31.8 | 121.42 | 51 | 73 | 43 | 1 | 78 |
| May ..... | 9,194 | 297 | 2,740 | 31 6 | 130.95 | 62 | 72 | 75 | ... | 60 |
| June ..... | 9,165 | 306 | 3,515 | 40.2 | 217.70 | 28 | 69 | 63 | 1 | 68 |
| July ..... | 11,606 | 374 | 5,602 | 50.5 | 327.37 | 56 | 101 | 56 | .. | 45 |
| August ..... | 10,642 | 343 | 4,480 | 48 8 | 292.70 | 49 | 167 | 86 | ... | 35 |
| September ..... | 9,111 | 304 | 3,356 | 39 0 | 224.45 | 30 | 234 | 84 | ... | 40 |
| October ..... | 8,640 | 279 | 2,665 | 32.7 | 155 00 | 26 | 240 | 87 | ... | 63 |
| November ..... | 8,209 | 274 | 2,199 | 28.5 | 146.00 | 29 | 216 | 68 | ... | 102 |
| Totals ..... | 118,552 | 325 | 37,063 | 31.2 | 164.80 | 482 | 1,573 | 732 | 4 | 832 |

## FIVE YEARS, BY MONTHS.

### BY MONTHS FOR 1888.

| | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 883 | 78 | 1,205 | 1,022 | 75 | 441 | 408 | 543 | 798 | 208 | 295 | 761 | 636 |
| | 879 | 78 | 1,563 | 1,089 | 105 | 481 | 412 | 553 | 916 | 203 | 278 | 882 | 715 |
| | 647 | 85 | 1,644 | 1,112 | 105 | 437 | 434 | 563 | 878 | 193 | 233 | 1,042 | 674 |
| | 682 | 109 | 1,762 | 1,238 | 138 | 450 | 423 | 608 | 991 | 204 | 292 | 1,096 | 935 |
| | 448 | 113 | 1,332 | 1,117 | 90 | 407 | 404 | 549 | 966 | 168 | 265 | 738 | 890 |
| | 627 | 131 | 1,438 | 1,195 | 98 | 458 | 481 | 570 | 1,009 | 211 | 370 | 738 | 988 |
| | 490 | 811 | 778 | 868 | 94 | 516 | 393 | 491 | 1,075 | 237 | 411 | 472 | 1,130 |
| | 411 | 2,957 | 588 | 906 | 78 | 784 | 383 | 492 | 930 | 210 | 397 | 454 | 1,111 |
| | 315 | 2,465 | 528 | 959 | 74 | 647 | 402 | 473 | 1,010 | 227 | 370 | 530 | 1,347 |
| | 308 | 1,440 | 649 | 895 | 69 | 600 | 343 | 494 | 895 | 198 | 303 | 510 | 995 |
| | 432 | 386 | 1,031 | 1,034 | 70 | 518 | 392 | 495 | 791 | 232 | 278 | 512 | 984 |
| | 538 | 112 | 1,051 | 893 | 58 | 414 | 398 | 522 | 796 | 164 | 300 | 443 | 726 |
| | 6,710 | 8,765 | 13,569 | 12,368 | 1,049 | 6,153 | 4,873 | 6,353 | 11,055 | 2,473 | 3,792 | 8,178 | 11,129 |

### BY MONTHS FOR 1889.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 621 | 87 | 1,392 | 1,017 | 95 | 434 | 461 | 584 | 917 | 232 | 345 | 517 | 817 |
| 05 | 606 | 101 | 1,473 | 1,061 | 77 | 421 | 469 | 577 | 946 | 194 | 279 | 507 | 896 |
| 19 | 563 | 75 | 1,447 | 947 | 100 | 401 | 461 | 574 | 922 | 183 | 256 | 507 | 896 |
| 57 | 590 | 115 | 1,840 | 1,195 | 109 | 468 | 488 | 662 | 1,004 | 228 | 237 | 624 | 1,092 |
| 37 | 589 | 122 | 1,656 | 1,092 | 125 | 429 | 478 | 574 | 986 | 222 | 311 | 590 | 1,029 |
| 21 | 492 | 123 | 1,172 | 1,102 | 86 | 511 | 421 | 599 | 951 | 227 | 377 | 548 | 1,061 |
| 20 | 423 | 1,112 | 744 | 919 | 77 | 639 | 386 | 485 | 951 | 223 | 376 | 414 | 1,133 |
| 12 | 305 | 3,092 | 537 | 1,012 | 62 | 844 | 449 | 542 | 1,029 | 227 | 357 | 502 | 1,394 |
| 33 | 327 | 1,901 | 591 | 1,026 | 63 | 690 | 437 | 540 | 936 | 254 | 373 | 477 | 1,196 |
| 90 | 313 | 1,094 | 646 | 949 | 65 | 638 | 794 | 483 | 870 | 206 | 326 | 446 | 872 |
| 70 | 570 | 339 | 959 | 1,016 | 64 | 557 | 531 | 595 | 899 | 238 | 343 | 491 | 1,092 |
| 55 | 501 | 110 | 1,133 | 941 | 67 | 450 | 452 | 509 | 892 | 199 | 311 | 419 | 868 |
| 32 | 5,930 | 8,271 | 13,590 | 12,280 | 991 | 6,472 | 5,727 | 6,814 | 11,233 | 2,632 | 3,901 | 6,102 | 12,386 |

### BY MONTHS FOR 1890.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 84 | 546 | 110 | 1,631 | 1,131 | 83 | 461 | 466 | 657 | 949 | 240 | 288 | 455 | 1,046 |
| 14 | 534 | 98 | 3,847 | 1,801 | 95 | 542 | 553 | 724 | 1,107 | 277 | 333 | 653 | 1,969 |
| 92 | 518 | 82 | 1,950 | 1,304 | 74 | 477 | 415 | 556 | 927 | 209 | 264 | 515 | 1,399 |
| 10 | 514 | 94 | 1,929 | 1,238 | 99 | 511 | 471 | 709 | 1,051 | 235 | 314 | 520 | 1,663 |
| 77 | 436 | 97 | 1,781 | 1,193 | 75 | 599 | 484 | 691 | 1,046 | 220 | 330 | 460 | 1,578 |
| 68 | 420 | 142 | 1,538 | 1,077 | 95 | 539 | 508 | 691 | 999 | 273 | 371 | 436 | 1,554 |
| 90 | 364 | 1,087 | 972 | 984 | 83 | 679 | 497 | 541 | 1,000 | 237 | 452 | 347 | 1,433 |
| 33 | 293 | 2,916 | 706 | 1,073 | 60 | 1,024 | 497 | 543 | 1,092 | 242 | 553 | 395 | 1,718 |
| 53 | 233 | 2,192 | 666 | 1,061 | 70 | 871 | 442 | 537 | 1,125 | 256 | 512 | 375 | 1,749 |
| 02 | 247 | 1,196 | 710 | 1,027 | 47 | 768 | 418 | 520 | 871 | 236 | 375 | 450 | 712 |
| 84 | 382 | 860 | 1,001 | 1,061 | 71 | 635 | 485 | 597 | 884 | 238 | 366 | 470 | 1,538 |
| 62 | 467 | 124 | 1,257 | 1,019 | 74 | 518 | 435 | 554 | 851 | 208 | 387 | 409 | 1,368 |
| 69 | 4,954 | 8,498 | 17,933 | 13,817 | 926 | 7,624 | 5,671 | 7,320 | 11,902 | 2,851 | 4,545 | 5,485 | 18,747 |

## MORTALITY OF THE

### TOTALS OF MORTALITY OF THE

| MONTHS. | Total number of deaths. | Representing daily average death rate of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small-pox. | Scarlet fever. | Measles. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1890. | | | | | | | | | | | |
| December..... | 8,761 | 283 | 2,635 | 30.0 | 186.00 | 30 | 157 | 59 | ... | 144 | |
| 1891. | | | | | | | | | | | |
| January ..... | 9,549 | 308 | 2,868 | 30.0 | 182.50 | 47 | 138 | 44 | 1 | 182 | |
| February..... | 8,704 | 311 | 2,813 | 32.5 | 141.75 | 41 | 127 | 32 | ... | 203 | |
| March ..... | 10,672 | 344 | 3,118 | 29.2 | 115.30 | 63 | 121 | 42 | .... | 195 | |
| April..... | 15,981 | 466 | 3,809 | 27.3 | 92.55 | 67 | 103 | 48 | 1 | 273 | |
| May..... | 10,213 | 329 | 2,917 | 28.6 | 117.45 | 57 | 88 | 35 | .... | 232 | |
| June..... | 9,321 | 311 | 3,715 | 38.8 | 186.80 | 42 | 89 | 46 | ... | 207 | |
| July ..... | 11,370 | 367 | 5,782 | 50.8 | 229.72 | 57 | 97 | 44 | ... | 181 | |
| August..... | 10,720 | 346 | 4,829 | 45.0 | 207.12 | 38 | 171 | 67 | ... | 120 | |
| September..... | 9,662 | 322 | 3,984 | 41.2 | 247.04 | 59 | 287 | 83 | ... | 99 | |
| October..... | 6,718 | 217 | 2,454 | 35.5 | 200.00 | 47 | 290 | 70 | ... | 118 | |
| November.. ..... | 8,727 | 291 | 2,528 | 29.0 | 151.06 | 39 | 241 | 61 | 2 | 179 | |
| Totals..... | 122,398 | 335 | 42,352 | 34.5 | 178.32 | 687 | 1,900 | 631 | 4 | 2,173 | 1,23 |

### TOTALS OF MORTALITY OF THE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1891. | | | | | | | | | | | |
| December..... | 11,241 | 363 | 3,023 | 26.9 | 133.45 | 32 | 183 | 47 | .... | 246 | 78 |
| 1892. | | | | | | | | | | | |
| January .. .. .. | 13,460 | 434 | 3,246 | 24.1 | 107.00 | 58 | 116 | 38 | 2 | 294 | 99 |
| February.. ... .. | 10,755 | 371 | 3,139 | 29.2 | 123.44 | 53 | 98 | 33 | 7 | 240 | 96 |
| March..... .... | 0,78 | 357 | 2,342 | 21 3 | 124.69 | 77 | 96 | 37 | 3 | 225 | 114 |
| April..... ... | 10,590 | 353 | 3,245 | 30.7 | 128.29 | 76 | 77 | 40 | 11 | 248 | 162 |
| May..... ... | 10,223 | 330 | 3,289 | 32.3 | 139 43 | 69 | 71 | 50 | 13 | 245 | 254 |
| June. ... ..... | 9,075 | 302 | 3,437 | 37.7 | 188.50 | 57 | 75 | 62 | 10 | 183 | 255 |
| July .. ..... | 3,555 | 438 | 6,855 | 52.1 | 340.00 | 59 | 131 | 61 | 8 | 75 | 139 |
| August.. ..... | 0,903 | 352 | 4,993 | 45.2 | 292.00 | 54 | 182 | 56 | 18 | 61 | 51 |
| September ..... | 9,695 | 320 | 3,760 | 38 8 | 235.90 | 48 | 282 | 74 | 9 | 78 | 37 |
| October ..... .... | 9,092 | 293 | 2,894 | 31.8 | 174.72 | 34 | 205 | 72 | 27 | 96 | 28 |
| November..... | 8,448 | 281 | 2,540 | 30.1 | 167.19 | 39 | 184 | 50 | 18 | 127 | 51 |
| Totals..... .. | 128,015 | 350 | 42,703 | 33 4 | 181.24 | 657 | 1,700 | 630 | 126 | 2,228 | 1,346 |

### TOTALS OF MORTALITY OF THE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1892. | | | | | | | | | | | |
| December ... ... | 9,528 | 308 | 2,754 | 23.9 | 146.41 | 24 | 147 | 40 | 17 | 195 | 83 |
| 1893. | | | | | | | | | | | |
| January..... .. | 10,490 | 338 | 3,056 | 29.1 | 137.00 | 44 | 120 | 34 | 15 | 237 | 86 |
| February. ..... | 9,358 | 334 | 2,774 | 29.6 | 136.28 | 46 | 101 | 29 | 23 | 198 | 89 |
| March ... ..... | 12,000 | 387 | 3,419 | 28.5 | 121.17 | 89 | 115 | 37 | 29 | 221 | 78 |
| April ..... | 11,865 | 395 | 3,339 | 28 1 | 111.16 | 104 | 111 | 34 | 23 | 199 | 73 |
| May ..... | 10,718 | 346 | 3,081 | 28.7 | 128.94 | 159 | 93 | 40 | 21 | 193 | 92 |
| June ..... | 8,728 | 291 | 2,885 | 33.0 | 162.88 | 96 | 83 | 42 | 10 | 154 | 99 |
| July ..... | 12,337 | 398 | 6,246 | 50.5 | 324 25 | 86 | 87 | 45 | 16 | 79 | 75 |
| August..... | 11,037 | 356 | 4,951 | 45.0 | 298.46 | 55 | 157 | 62 | 11 | 63 | 44 |
| September ... ... | 9,346 | 311 | 3,718 | 39 8 | 248.65 | 49 | 227 | 63 | 23 | 34 | 24 |
| October..... | 8,981 | 290 | 2,994 | 33.4 | 185.00 | 56 | 253 | 50 | 19 | 65 | 14 |
| November..... | 8,458 | 281 | 2,324 | 27.5 | 157.00 | 45 | 180 | 30 | 27 | 77 | 56 |
| Totals.. .. ... | 122,841 | 336 | 41,544 | 38.8 | 181.85 | 853 | 1,674 | 506 | 234 | 1,715 | 801 |

-(*Continued*).

MONTHS FOR 1891.

| Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 1,756 | 1,045 | 85 | 533 | 488 | 643 | 1,000 | 257 | 285 | 454 | 1,029 |
| 103 | 1,761 | 1,210 | 81 | 533 | 548 | 737 | 1,041 | 220 | 288 | 523 | 1,251 |
| 121 | 1,683 | 985 | 107 | 517 | 542 | 672 | 1,003 | 205 | 290 | 504 | 1,007 |
| 101 | 2,307 | 1,318 | 112 | 613 | 611 | 771 | 1,165 | 283 | 290 | 696 | 1,270 |
| 122 | 4,457 | 1,377 | 92 | 596 | 645 | 869 | 1,348 | 271 | 418 | 901 | 1,816 |
| 127 | 2,129 | 1,284 | 114 | 561 | 535 | 741 | 1,021 | 218 | 434 | 629 | 1,349 |
| 508 | 1,098 | 973 | 103 | 720 | 479 | 678 | 1,127 | 221 | 534 | 753 | 1,226 |
| 2,906 | 717 | 1,032 | 67 | 1,036 | 502 | 652 | 1,158 | 239 | 458 | 363 | 1,397 |
| 2,405 | 675 | 1,041 | 87 | 925 | 480 | 612 | 1,133 | 257 | 617 | 477 | 1,235 |
| 1,434 | 720 | 1,039 | 65 | 924 | 479 | 596 | 997 | 289 | 449 | 421 | 1,293 |
| 794 | 1,012 | 1,124 | 60 | 832 | 558 | 695 | 1,023 | 252 | 430 | 494 | 1,281 |
| 143 | 1,507 | 1,017 | 65 | 593 | 501 | 656 | 967 | 237 | 404 | 487 | 1,033 |
| 9,143 | 19,722 | 13,500 | 1,038 | 8,073 | 6,363 | 9,322 | 12,983 | 2,989 | 4,797 | 6,252 | 15,247 |

MONTHS FOR 1892.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 115 | 2,731 | 1,090 | 100 | 646 | 593 | 801 | 1,158 | 296 | 416 | 732 | 1,153 |
| 94 | 3,801 | 1,286 | 125 | 686 | 541 | 953 | 1,339 | 295 | 362 | 1,183 | 1,449 |
| 99 | 2,315 | 1,196 | 113 | 620 | 564 | 813 | 1,218 | 232 | 340 | 770 | 1,247 |
| 108 | 2,390 | 1,272 | 137 | 638 | 583 | 803 | 1,305 | 276 | 323 | 690 | 1,192 |
| 131 | 2,161 | 1,252 | 126 | 665 | 576 | 822 | 1,291 | 240 | 400 | 466 | 1,233 |
| 113 | 1,972 | 1,207 | 108 | 617 | 610 | 776 | 1,159 | 270 | 461 | 443 | 1,180 |
| 676 | 1,060 | 1,005 | 89 | 692 | 449 | 693 | 1,132 | 248 | 545 | 368 | 1,080 |
| 3,629 | 861 | 1,093 | 96 | 1,261 | 556 | 700 | 1,248 | 266 | 842 | 417 | 1,503 |
| 2,328 | 704 | 1,056 | 73 | 985 | 512 | 663 | 1,208 | 279 | 572 | 369 | 1,301 |
| 1,266 | 854 | 1,023 | 69 | 887 | 502 | 644 | 1,008 | 280 | 469 | 461 | 1,220 |
| 491 | 1,132 | 906 | 62 | 709 | 547 | 694 | 1,024 | 263 | 448 | 420 | 1,198 |
| 137 | 1,445 | 940 | 55 | 582 | 490 | 674 | 845 | 244 | 377 | 382 | 1,066 |
| 9,187 | 21,426 | 13,416 | 1,153 | 8,981 | 6,523 | 9,035 | 14,060 | 3,189 | 5,555 | 6,701 | 14,764 |

MONTHS FOR 1893.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 113 | 1,737 | 1,145 | 78 | 575 | 572 | 779 | 1,132 | 259 | 404 | 416 | 1,036 |
| 141 | 2,293 | 1,096 | 136 | 568 | 607 | 866 | 1,128 | 260 | 336 | 515 | 1,283 |
| 141 | 1,910 | 954 | 102 | 602 | 554 | 779 | 1,102 | 218 | 279 | 496 | 1,080 |
| 163 | 2,951 | 1,286 | 131 | 699 | 605 | 885 | 1,330 | 303 | 334 | 589 | 1,344 |
| 143 | 2,943 | 1,329 | 124 | 678 | 637 | 865 | 1,413 | 304 | 402 | 572 | 1,279 |
| 175 | 1,944 | 1,239 | 86 | 660 | 664 | 834 | 1,287 | 286 | 544 | 508 | 1,284 |
| 478 | 1,010 | 1,065 | 67 | 612 | 503 | 679 | 1,108 | 241 | 564 | 384 | 1,078 |
| 3,206 | 746 | 1,073 | 72 | 1,219 | 552 | 729 | 1,252 | 300 | 598 | 383 | 1,333 |
| 2,406 | 663 | 1,040 | 73 | 986 | 534 | 676 | 1,167 | 283 | 600 | 432 | 1,314 |
| 1,395 | 713 | 912 | 68 | 863 | 528 | 591 | 1,026 | 268 | 448 | 391 | 1,221 |
| 533 | 947 | 1,070 | 58 | 771 | 541 | 658 | 1,010 | 278 | 422 | 363 | 1,206 |
| 152 | 1,242 | 957 | 57 | 595 | 529 | 691 | 925 | 242 | 411 | 469 | 1,009 |
| 9,046 | 19,099 | 13,169 | 1,052 | 8,828 | 6,917 | 9,032 | 13,880 | 3,237 | 5,337 | 5,518 | 14,422 |

| MONTHS. | Total number of deaths. | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small-pox. | Scarlet fever. | Measles. |
|---|---|---|---|---|---|---|---|---|---|---|
| **January:** | | | | | | | | | | |
| 1885 | 6,571 | 2,163 | 32.9 | 111.20 | 42 | 92 | 64 | .. | 127 | 1 |
| 1886 | 6,747 | 2,252 | 33 3 | 161 11 | 28 | 66 | 53 | 3 | 138 | [illegible] |
| 1887 | 7,071 | 2,322 | 36 8 | 162.91 | 61 | 72 | 63 | 21 | 101 | 34 |
| 1888 | 8,742 | 2,848 | 32.5 | 176.75 | 37 | 64 | 71 | 21 | 265 | [illegible] |
| 1889 | 8,337 | 2,933 | 35.2 | 170.32 | 35 | 89 | 51 | 15 | 242 | 16 |
| 1890 | 13,320 | 2,427 | 18.2 | 89.70 | 29 | 117 | 62 | .. | 93 | [illegible] |
| 1801 | 9,549 | 2,868 | 30.0 | 132.50 | 47 | 138 | 44 | 1 | 182 | 14 |
| 1892 | 13,460 | 3,246 | 24.1 | 107.00 | 58 | 116 | 38 | 2 | 204 | [illegible] |
| 1893 | 10,490 | 3,056 | 29.1 | 137.00 | 44 | 120 | 34 | 15 | 237 | [illegible] |
| **February:** | | | | | | | | | | |
| 1885 | 6,606 | 2,288 | 34.2 | 125.37 | 40 | 52 | 70 | .. | 126 | 15 |
| 1886 | 6,288 | 2,011 | 32.0 | 153.00 | 42 | 57 | 66 | .. | 119 | [illegible] |
| 1887 | 6,653 | 2,439 | 36.8 | 159.00 | 39 | 57 | 48 | 21 | 79 | 239 |
| 1888 | 8,637 | 2,748 | 32.0 | 154.00 | 44 | 84 | 49 | 10 | 239 | 55 |
| 1889 | 8,183 | 2,933 | 35.8 | 170.00 | 32 | 71 | 30 | 9 | 324 | 136 |
| 1890 | 9,130 | 2,370 | 27.5 | 118.80 | 37 | 94 | 39 | .. | 96 | 50 |
| 1891 | 8,704 | 2,813 | 32.5 | 141.75 | 41 | 127 | 32 | .. | 203 | 14 |
| 1892 | 10,755 | 3,139 | 29.2 | 153.44 | 53 | 98 | 33 | 7 | 290 | [illegible] |
| 1893 | 9,353 | 2,774 | 29.6 | 136 28 | 46 | 101 | 29 | 23 | 196 | [illegible] |
| **March:** | | | | | | | | | | |
| 1885 | 7,391 | 2,561 | 34.6 | 146.08 | 40 | 60 | 71 | .. | 135 | 19 |
| 1886 | 7,918 | 2,552 | 32.2 | 128.67 | 63 | 75 | 72 | 6 | 119 | [illegible] |
| 1887 | 7,930 | 2,551 | 32.5 | 211.11 | 42 | 72 | 54 | 24 | 98 | 132 |
| 1888 | 9,405 | 2,788 | 30.0 | 147.37 | 49 | 74 | 56 | 35 | 239 | [illegible] |
| 1889 | 9,547 | 3,381 | 35 4 | 167 50 | 43 | 69 | 47 | 1 | 386 | 150 |
| 1890 | 9,844 | 2,772 | 30 0 | 117 35 | 47 | 72 | 36 | 2 | 90 | [illegible] |
| 1891 | 10,672 | 3,118 | 29.2 | 115 30 | 63 | 121 | 42 | .. | 195 | 157 |
| 1892 | 10,978 | 2,312 | 21.3 | 124 69 | 77 | 96 | 37 | 3 | 285 | 114 |
| 1893 | 12,000 | 3,119 | 28 5 | 121.17 | 89 | 115 | 37 | 29 | 221 | [illegible] |
| **April:** | | | | | | | | | | |
| 1885 | 7,016 | 2,275 | 32 5 | 228.90 | 31 | 68 | 75 | 1 | 141 | 191 |
| 1886 | 7,181 | 2,281 | 31.8 | 149 00 | 63 | 69 | 75 | 8 | 129 | [illegible] |
| 1887 | 7,967 | 2,443 | 30.6 | 138.36 | 56 | 56 | 75 | 12 | 112 | 111 |
| 1888 | 8,129 | 2,468 | 30.0 | 150.00 | 75 | 45 | 52 | 40 | 250 | [illegible] |
| 1889 | 9,058 | 3,116 | 34 5 | 174 20 | 45 | 78 | 64 | 2 | 363 | [illegible] |
| 1890 | 9,488 | 2,826 | 31.8 | 121 42 | 51 | 73 | 43 | 1 | 78 | [illegible] |
| 1891 | 13,981 | 3,899 | 27.3 | 92.85 | 67 | 103 | 48 | 1 | 273 | [illegible] |
| 1892 | 10,590 | 3,245 | 30.7 | 128.29 | 76 | 77 | 40 | 11 | 248 | [illegible] |
| 1893 | 11,865 | 3,339 | 28.1 | 111.16 | 104 | 111 | 34 | 21 | 199 | [illegible] |
| **May:** | | | | | | | | | | |
| 1885 | 6,542 | 2,094 | 32 2 | 154.70 | 53 | 55 | 74 | .. | 122 | 165 |
| 1886 | 6,659 | 2,044 | 31 7 | 147.45 | 55 | 45 | 75 | 5 | 116 | [illegible] |
| 1887 | 7,528 | 2,457 | 32 6 | 153 65 | 52 | 37 | 66 | 42 | 114 | [illegible] |
| 1888 | 9,032 | 2,891 | 32.1 | 141.75 | 62 | 59 | 68 | 42 | 277 | [illegible] |
| 1889 | 8,357 | 2,773 | 33.1 | 155 91 | 42 | 63 | 37 | .. | 276 | [illegible] |
| 1890 | 9,194 | 2,740 | 31.6 | 130 95 | 62 | 72 | 55 | .. | 60 | [illegible] |
| 1891 | 10,213 | 2,917 | 28.6 | 117 45 | 57 | 88 | 35 | .. | 252 | [illegible] |
| 1892 | 10,223 | 3,289 | 32 3 | 139.43 | 69 | 71 | 50 | 13 | 245 | [illegible] |
| 1893 | 10,718 | 3,081 | 28 7 | 128.94 | 159 | 93 | 40 | 21 | 193 | [illegible] |
| **June:** | | | | | | | | | | |
| 1885 | 6,204 | 2,483 | 40.0 | 238.55 | 37 | 54 | 74 | 3 | 106 | [illegible] |
| 1886 | 6,316 | 2,228 | 35.3 | 193.65 | 57 | 39 | 50 | 2 | 74 | [illegible] |
| 1887 | 7,484 | 2,020 | 40.0 | 210.00 | 57 | 54 | 67 | 7 | 109 | [illegible] |
| 1888 | 8,368 | 3,306 | 39 7 | 227 34 | 40 | 45 | 56 | 11 | 233 | [illegible] |
| 1889 | 8,370 | 3,632 | 43.4 | 241 82 | 27 | 45 | 59 | .. | 154 | [illegible] |
| 1890 | 9,185 | 3,515 | 40.2 | 217.70 | 28 | 69 | 62 | 1 | 68 | [illegible] |
| 1891 | 9,321 | 3,615 | 38.8 | 186.80 | 42 | 80 | 46 | .. | 207 | [illegible] |
| 1892 | 9,075 | 3,437 | 37.7 | 188.50 | 57 | 75 | 62 | 10 | 183 | [illegible] |
| 1893 | 8,728 | 2,895 | 33.0 | 162.88 | 96 | 88 | 42 | 10 | 154 | [illegible] |

THS

| Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 104 | 1,078 | 1,028 | 93 | 329 | 371 | 404 | 691 | 148 | 165 | 425 | 701 |
| 73 | 1,184 | 1,008 | 96 | 332 | 327 | 464 | 717 | 142 | 232 | 485 | 673 |
| 78 | 1,454 | 1,057 | 73 | 361 | 365 | 453 | 754 | 178 | 224 | 693 | 812 |
| 78 | 1,553 | 1,089 | 105 | 481 | 413 | 553 | 916 | 203 | 278 | 882 | 715 |
| 101 | 1,473 | 1,061 | 77 | 421 | 469 | 577 | 946 | 194 | 279 | 507 | 896 |
| 98 | 8,847 | 1,801 | 95 | 542 | 553 | 724 | 1,107 | 277 | 333 | 653 | 1,969 |
| 103 | 1,761 | 1,210 | 81 | 533 | 548 | 737 | 1,041 | 220 | 288 | 523 | 1,251 |
| 94 | 8,801 | 1,286 | 125 | 686 | 541 | 953 | 1,339 | 295 | 362 | 1,183 | 1,149 |
| 141 | 2,293 | 1,099 | 136 | 568 | 607 | 866 | 1,128 | 260 | 339 | 515 | 1,243 |
| 89 | 1,396 | 929 | 95 | 302 | 338 | 437 | 712 | 149 | 190 | 456 | 564 |
| 70 | 1,110 | 946 | 87 | 324 | 347 | 431 | 687 | 157 | 222 | 461 | 555 |
| 87 | 1,144 | 952 | 86 | 318 | 357 | 443 | 686 | 149 | 204 | 643 | 568 |
| 85 | 1,644 | 1,112 | 105 | 437 | 434 | 563 | 878 | 193 | 233 | 1,042 | 674 |
| 75 | 1,447 | 947 | 100 | 401 | 461 | 574 | 922 | 183 | 256 | 507 | 996 |
| 82 | 1,950 | 1,304 | 74 | 477 | 415 | 556 | 927 | 209 | 264 | 515 | 1,399 |
| 121 | 1,683 | 985 | 107 | 517 | 522 | 672 | 1,003 | 205 | 290 | 504 | 1,007 |
| 99 | 2,315 | 1,196 | 113 | 620 | 564 | 813 | 1,218 | 232 | 340 | 770 | 1,247 |
| 141 | 1,910 | 954 | 102 | 602 | 554 | 779 | 1,102 | 218 | 279 | 496 | 1,080 |
| 112 | 1,684 | 1,083 | 113 | 329 | 368 | 481 | 812 | 165 | 200 | 467 | 608 |
| 76 | 1,590 | 1,129 | 106 | 305 | 418 | 474 | 853 | 193 | 234 | 660 | 758 |
| 624 | 1,203 | 664 | 103 | 367 | 377 | 535 | 839 | 197 | 260 | 775 | 857 |
| 107 | 1,732 | 1,218 | 137 | 441 | 422 | 598 | 970 | 204 | 269 | 1,090 | 926 |
| 115 | 1,840 | 1,195 | 109 | 468 | 488 | 662 | 1,004 | 228 | 237 | 624 | 1,093 |
| 94 | 1,929 | 1,238 | 99 | 511 | 471 | 709 | 1,051 | 235 | 314 | 520 | 1,663 |
| 101 | 2,307 | 1,318 | 112 | 613 | 611 | 771 | 1,165 | 283 | 290 | 696 | 1,270 |
| 108 | 2,380 | 1,272 | 137 | 638 | 583 | 802 | 1,305 | 276 | 333 | 690 | 1,192 |
| 163 | 2,451 | 1,256 | 131 | 699 | 695 | 885 | 1,330 | 303 | 334 | 589 | 1,344 |
| 106 | 1,441 | 1,049 | 91 | 347 | 395 | 487 | 761 | 81 | 236 | 522 | 564 |
| 89 | 1,188 | 1,125 | 90 | 353 | 385 | 483 | 830 | 173 | 251 | 550 | 733 |
| 112 | 1,341 | 1,146 | 100 | 434 | 432 | 512 | 844 | 207 | 282 | 833 | 747 |
| 113 | 1,332 | 1,117 | 90 | 407 | 404 | 549 | 966 | 186 | 265 | 738 | 890 |
| 122 | 1,650 | 1,092 | 125 | 429 | 478 | 574 | 986 | 222 | 311 | 590 | 1,029 |
| 97 | 1,781 | 1,138 | 75 | 509 | 484 | 691 | 1,046 | 220 | 330 | 460 | 1,578 |
| 122 | 4,357 | 1,377 | 92 | 596 | 645 | 869 | 1,348 | 271 | 418 | 901 | 1,816 |
| 131 | 2,161 | 1,252 | 126 | 665 | 576 | 822 | 1,291 | 240 | 400 | 466 | 1,233 |
| 143 | 2,943 | 1,329 | 124 | 678 | 637 | 865 | 1,413 | 304 | 402 | 572 | 1,279 |
| 136 | 1,089 | 1,033 | 94 | 331 | 345 | 407 | 707 | 161 | 312 | 387 | 717 |
| 123 | 835 | 1,085 | 73 | 355 | 363 | 443 | 711 | 186 | 331 | 445 | 850 |
| 142 | 1,098 | 1,052 | 71 | 379 | 378 | 445 | 870 | 191 | 359 | 714 | 814 |
| 131 | 1,438 | 1,195 | 98 | 458 | 481 | 570 | 1,009 | 211 | 370 | 738 | 968 |
| 123 | 1,172 | 1,102 | 86 | 511 | 421 | 599 | 951 | 227 | 377 | 548 | 1,061 |
| 142 | 1,533 | 1,077 | 95 | 539 | 508 | 691 | 999 | 273 | 371 | 486 | 1,554 |
| 127 | 2,128 | 1,234 | 114 | 561 | 555 | 741 | 1,021 | 248 | 434 | 629 | 1,349 |
| 113 | 1,972 | 1,207 | 108 | 617 | 610 | 736 | 1,159 | 270 | 461 | 443 | 1,180 |
| 175 | 1,944 | 1,239 | 86 | 660 | 664 | 834 | 1,287 | 286 | 544 | 508 | 1,284 |
| 680 | 643 | 814 | 78 | 334 | 328 | 432 | 703 | 172 | 277 | 356 | 587 |
| 465 | 626 | 911 | 74 | 382 | 323 | 470 | 714 | 188 | 298 | 397 | 702 |
| 887 | 587 | 948 | 56 | 516 | 404 | 458 | 784 | 190 | 362 | 597 | 805 |
| 811 | 778 | 868 | 94 | 516 | 393 | 491 | 1,075 | 237 | 411 | 473 | 1,130 |
| 1,112 | 744 | 919 | 77 | 639 | 396 | 485 | 951 | 222 | 376 | 414 | 1,133 |
| 1,087 | 972 | 984 | 83 | 679 | 497 | 541 | 1,000 | 237 | 452 | 347 | 1,433 |
| 898 | 1,068 | 978 | 103 | 720 | 473 | 678 | 1,127 | 224 | 534 | 353 | 1,286 |
| 676 | 1,060 | 1,045 | 89 | 692 | 449 | 693 | 1,132 | 248 | 545 | 368 | 1,080 |
| 478 | 1,010 | 1,065 | 67 | 612 | 508 | 679 | 1,108 | 241 | 564 | 384 | 1,073 |

MORTALITY

| MONTHS. | Total number of deaths. | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small pox. | Scarlet fever. | Measles. |
|---|---|---|---|---|---|---|---|---|---|---|
| **July:** | | | | | | | | | | |
| 1885 | 9,318 | 5,066 | 54.4 | 401.37 | 41 | 61 | 89 | 4 | 89 | |
| 1886 | 9,376 | 5,021 | 53.5 | 374.68 | 44 | 75 | 61 | ... | 49 | |
| 1887 | 11,863 | 6,049 | 52.7 | 389.68 | 51 | 102 | 61 | 12 | 69 | |
| 1888 | 10,300 | 5,363 | 52 0 | 380.00 | 35 | 73 | 51 | 2 | 141 | |
| 1889 | 10,806 | 5,563 | 51.4 | 352.20 | 46 | 117 | 61 | 1 | 60 | |
| 1890 | 11,696 | 5,662 | 50.5 | 327.37 | 56 | 101 | 56 | ... | 45 | |
| 1891 | 11,370 | 5,782 | 50.8 | 329 72 | 57 | 97 | 44 | ... | 121 | |
| 1892 | 13,535 | 6,855 | 52 1 | 340.00 | 59 | 131 | 61 | 6 | 75 | |
| 1893 | 12,237 | 6,216 | 50.5 | 321.25 | 86 | 87 | 45 | 16 | 79 | |
| **August.** | | | | | | | | | | |
| 1885 | 7,284 | 3,405 | 46.7 | 337 31 | 43 | 104 | 103 | ... | 57 | |
| 1886 | 7,112 | 3,312 | 46 3 | 314.20 | 46 | 101 | 66 | ... | 48 | |
| 1887 | 9,042 | 4,130 | 45.3 | 323.30 | 41 | 194 | 94 | 6 | 55 | |
| 1888 | 10,017 | 4,867 | 48.7 | 315.80 | 29 | 174 | 87 | 6 | 120 | |
| 1889 | 9,373 | 4,059 | 40.7 | 240.75 | 33 | 224 | 96 | ... | 34 | |
| 1890 | 10,642 | 4,480 | 48 8 | 292.70 | 49 | 167 | 86 | ... | 88 | |
| 1891 | 10,729 | 4,829 | 45.0 | 297 12 | 38 | 171 | 67 | ... | 120 | |
| 1892 | 10,903 | 4,933 | 45.2 | 292.00 | 54 | 182 | 56 | 18 | 61 | |
| 1893 | 11,037 | 4,954 | 45.0 | 298 64 | 55 | 157 | 62 | 11 | 62 | |
| **September:** | | | | | | | | | | |
| 1885 | 6,251 | 2,309 | 37.0 | 325.75 | 35 | 145 | 110 | 5 | 39 | |
| 1886 | 7,229 | 3,205 | 44 3 | 272.88 | 42 | 176 | 74 | ... | 38 | |
| 1887 | 8,267 | 3,218 | 39 0 | 261.15 | 38 | 218 | 141 | 10 | 76 | |
| 1888 | 8,433 | 3,877 | 45 9 | 291.32 | 31 | 279 | 102 | 12 | 114 | |
| 1889 | 8,264 | 3,179 | 38.4 | 238.26 | 19 | 247 | 92 | 2 | 53 | |
| 1890 | 9,111 | 3,356 | 39 0 | 224 45 | 30 | 234 | 81 | ... | 46 | |
| 1891 | 9,662 | 3,984 | 41.2 | 247.04 | 59 | 247 | 83 | ... | 78 | |
| 1892 | 9,610 | 3,737 | 38.8 | 235.90 | 48 | 226 | 74 | 6 | 72 | |
| 1893 | 9,346 | 3,718 | 39.8 | 238.65 | 49 | 197 | 63 | 23 | 34 | |
| **October:** | | | | | | | | | | |
| 1885 | 5,680 | 1,853 | 32 6 | 201.22 | 27 | 151 | 85 | 5 | 53 | |
| 1886 | 7,310 | 2,730 | 37.0 | 226.20 | 32 | 194 | 118 | 2 | 51 | |
| 1887 | 7,370 | 2,317 | 31.3 | 201.63 | 38 | 182 | 104 | 4 | 113 | |
| 1888 | 7,886 | 2,522 | 32.0 | 196.37 | 33 | 283 | 109 | 12 | 125 | |
| 1889 | 8,050 | 2,288 | 28.4 | 177.00 | 21 | 231 | 87 | ... | 87 | |
| 1890 | 8,640 | 2,665 | 32.7 | 155.00 | 26 | 240 | 87 | ... | 82 | |
| 1891 | 9,718 | 3,454 | 35 5 | 200.00 | 47 | 290 | 70 | ... | 117 | |
| 1892 | 9,092 | 2,804 | 31.8 | 174 72 | 35 | 265 | 72 | 27 | 96 | |
| 1893 | 8,981 | 2,994 | 33.4 | 185.00 | 56 | 253 | 50 | 19 | 65 | |
| **November:** | | | | | | | | | | |
| 1885 | 5,448 | 1,620 | 29 7 | 181.85 | 25 | 126 | 69 | 8 | 67 | |
| 1886 | 6,872 | 2,423 | 35.2 | 213 33 | 47 | 157 | 98 | 1 | 87 | |
| 1887 | 7,292 | 2,171 | 29.7 | 200.00 | 29 | 149 | 80 | 4 | 130 | |
| 1888 | 6,987 | 2,111 | 30.2 | 174.88 | 21 | 153 | 61 | 8 | 171 | |
| 1889 | 7,285 | 2,025 | 27.7 | 139.60 | 21 | 169 | 63 | ... | 56 | |
| 1890 | 8,209 | 2,199 | 28.5 | 146.00 | 29 | 216 | 68 | ... | 102 | |
| 1891 | 8,727 | 2,528 | 29.0 | 151 06 | 39 | 241 | 61 | 12 | 179 | |
| 1892 | 8,418 | 2,540 | 30.1 | 167.19 | 39 | 184 | 50 | 18 | 175 | |
| 1893 | 8,458 | 2,324 | 27.5 | 157.00 | 45 | 180 | 50 | 27 | 175 | |
| **December:** | | | | | | | | | | |
| 1885 | 6,078 | 1,910 | 31.4 | 185.42 | 32 | 99 | 60 | 7 | 112 | |
| 1886 | 7,603 | 2,868 | 37.3 | 200 00 | 50 | 112 | 85 | 5 | 69 | |
| 1887 | 7,885 | 2,497 | 31 6 | 1'0 00 | 36 | 104 | 78 | 12 | 204 | |
| 1888 | 9,369 | 2,795 | 29.8 | 179.00 | 28 | 138 | 49 | 13 | 278 | |
| 1889 | 8,483 | 2,311 | 27.0 | 136.85 | 38 | 117 | 53 | ... | 73 | |
| 1890 | 8,761 | 2,635 | 30.0 | 135.93 | 30 | 157 | 59 | ... | 144 | |
| 1891 | 11,241 | 3,023 | 26.9 | 138.45 | 32 | 183 | 47 | ... | 246 | |
| 1892 | 9,528 | 2,754 | 28.9 | 146.41 | 24 | 147 | 40 | 17 | 195 | |
| 1893 | 10,600 | 2,834 | 26 7 | 117.25 | 46 | 158 | 27 | 35 | 106 | |

ITHS —. (*Concluded*).

| Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of the circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2,983 | 464 | 883 | 107 | 612 | 348 | 392 | 1,052 | 172 | 375 | 413 | 759 |
| 2,696 | 541 | 949 | 56 | 616 | 357 | 443 | 907 | 166 | 373 | 480 | 989 |
| 3,6 | 477 | 956 | 90 | 738 | 406 | 429 | 1,259 | 227 | 409 | 720 | 1,185 |
| 2,957 | 588 | 966 | 73 | 784 | 883 | 492 | 930 | 210 | 397 | 454 | 1,111 |
| 3,042 | 537 | 1,012 | 63 | 841 | 449 | 542 | 1,029 | 227 | 357 | 502 | 1,394 |
| 2,916 | 706 | 1,073 | 60 | 1,024 | 497 | 543 | 1,092 | 242 | 553 | 395 | 1,718 |
| 2,905 | 717 | 1,032 | 67 | 1,036 | 502 | 652 | 1,158 | 239 | 456 | 363 | 1,397 |
| 3,629 | 861 | 1,093 | 96 | 1,264 | 556 | 760 | 1,348 | 266 | 842 | 447 | 1,508 |
| 3,206 | 746 | 1,073 | 72 | 1,219 | 552 | 729 | 1,252 | 300 | 598 | 383 | 1,383 |
| 1,719 | 419 | 895 | 54 | 430 | 307 | 347 | 675 | 192 | 267 | 266 | 875 |
| 1,484 | 480 | 861 | 55 | 528 | 330 | 309 | 657 | 153 | 266 | 458 | 798 |
| 2,158 | 457 | 926 | 67 | 665 | 361 | 442 | 933 | 199 | 354 | 731 | 956 |
| 2,165 | 538 | 950 | 74 | 647 | 402 | 473 | 1,010 | 247 | 370 | 530 | 1,345 |
| 1,901 | 591 | 1,026 | 63 | 680 | 437 | 540 | 936 | 254 | 373 | 477 | 1,196 |
| 2,192 | 666 | 1,061 | 70 | 871 | 442 | 537 | 1,125 | 236 | 512 | 375 | 1,749 |
| 2,405 | 675 | 1,041 | 87 | 925 | 480 | 612 | 1,133 | 257 | 617 | 477 | 1,235 |
| 2,328 | 704 | 1,056 | 73 | 985 | 512 | 662 | 1,208 | 279 | 572 | 369 | 1,301 |
| 2,406 | 663 | 1,040 | 13 | 986 | 534 | 676 | 1,167 | 283 | 600 | 432 | 1,814 |
| 839 | 475 | 886 | 59 | 412 | 316 | 358 | 651 | 137 | 271 | 398 | 681 |
| 1,186 | 497 | 919 | 61 | 588 | 352 | 386 | 674 | 165 | 208 | 474 | 843 |
| 1,069 | 697 | 989 | 45 | 522 | 352 | 503 | 722 | 232 | 331 | 765 | 959 |
| 1,410 | 610 | 895 | 69 | 600 | 343 | 491 | 895 | 198 | 303 | 510 | 995 |
| 1,094 | 646 | 946 | 65 | 638 | 791 | 483 | 870 | 206 | 326 | 446 | 872 |
| 1,196 | 710 | 1,027 | 47 | 768 | 418 | 520 | 871 | 236 | 375 | 450 | 1,712 |
| 1,431 | 720 | 1,039 | 65 | 924 | 479 | 596 | 997 | 289 | 449 | 421 | 1,293 |
| 1,266 | 834 | 1,010 | 69 | 877 | 502 | 629 | 908 | 280 | 499 | 451 | 1,208 |
| 1,395 | 713 | 912 | 68 | 863 | 528 | 591 | 1,026 | 208 | 443 | 391 | 1,221 |
| 324 | 525 | 927 | 58 | 342 | 313 | 362 | 608 | 160 | 238 | 341 | 651 |
| 493 | 845 | 985 | 50 | 497 | 366 | 409 | 692 | 193 | 294 | 549 | 825 |
| 297 | 853 | 942 | 53 | 458 | 367 | 475 | 759 | 207 | 309 | 717 | 743 |
| 396 | 1,031 | 1,034 | 70 | 518 | 392 | 495 | 791 | 232 | 278 | 519 | 984 |
| 339 | 959 | 1,016 | 64 | 557 | 471 | 595 | 899 | 238 | 313 | 491 | 1,089 |
| 360 | 1,001 | 1,061 | 71 | 635 | 485 | 597 | 884 | 238 | 366 | 470 | 1,538 |
| 794 | 1,012 | 1,124 | 60 | 842 | 539 | 695 | 1,022 | 259 | 430 | 494 | 1,281 |
| 431 | 1,132 | 996 | 62 | 709 | 547 | 691 | 1,024 | 263 | 448 | 420 | 1,196 |
| 533 | 947 | 1,070 | 58 | 771 | 542 | 658 | 1,010 | 273 | 422 | 363 | 1,206 |
| 115 | 716 | 831 | 63 | 302 | 310 | 388 | 619 | 158 | 249 | 353 | 470 |
| 166 | 1,056 | 982 | 70 | 328 | 361 | 448 | 576 | 166 | 264 | 494 | 661 |
| 117 | 1,041 | 964 | 67 | 370 | 375 | 499 | 709 | 178 | 301 | 718 | 640 |
| 112 | 1,051 | 893 | 58 | 414 | 398 | 522 | 796 | 164 | 300 | 443 | 726 |
| 110 | 1,123 | 944 | 67 | 450 | 452 | 599 | 822 | 199 | 311 | 419 | 868 |
| 124 | 1,207 | 1,019 | 74 | 518 | 435 | 554 | 851 | 208 | 387 | 409 | 1,388 |
| 113 | 1,507 | 1,017 | 65 | 583 | 501 | 656 | 967 | 237 | 404 | 497 | 1,033 |
| 137 | 1,445 | 940 | 55 | 582 | 490 | 674 | 845 | 244 | 377 | 382 | 1,008 |
| 152 | 1,242 | 957 | 57 | 595 | 529 | 691 | 925 | 242 | 411 | 469 | 1,009 |
| 93 | 984 | 875 | 61 | 273 | 330 | 405 | 662 | 192 | 212 | 405 | 552 |
| 107 | 1,427 | 1,047 | 63 | 338 | 376 | 474 | 731 | 167 | 233 | 537 | 644 |
| 78 | 1,205 | 1,022 | 75 | 411 | 408 | 513 | 709 | 208 | 295 | 761 | 636 |
| 87 | 1,392 | 1,017 | 95 | 434 | 461 | 584 | 917 | 233 | 345 | 517 | 817 |
| 110 | 1,635 | 1,127 | 83 | 463 | 466 | 656 | 950 | 238 | 288 | 455 | 1,046 |
| 80 | 1,756 | 1,045 | 85 | 533 | 483 | 643 | 1,000 | 257 | 285 | 454 | 1,029 |
| 115 | 2,731 | 1,090 | 100 | 615 | 593 | 801 | 1,183 | 290 | 416 | 732 | 1,158 |
| 113 | 1,737 | 1,145 | 78 | 575 | 572 | 779 | 1,132 | 259 | 404 | 416 | 1,036 |
| 123 | 2,415 | 1,099 | 80 | 581 | 610 | 792 | 1,078 | 254 | 359 | 724 | 1,237 |

The percentages of mortality in each of the four quarters of the year were as follows:

| 1893. | ALL AGES | | AGES UNDER FIVE YEARS. | |
|---|---|---|---|---|
| | Numbers. | Percentages. | Numbers. | Percentages. |
| First quarter..... | 29,371 | 23.92 | 8,584 | 20.66 |
| Second quarter..... | 34,583 | 28.16 | 9,839 | 23.68 |
| Third quarter..... | 32,102 | 26.11 | 14,085 | 33.92 |
| Fourth quarter..... | 26,785 | 21.81 | 9,036 | 21.74 |
| Total..... | 122,841 | 100.00 | 41,544 | 100.00 |

This table shows that the largest percentage of deaths at all ages occurred in the spring months and the smallest in the fall months. Ordinarily the largest mortality occurs in the summer months. This difference is due to the influenza epidemic, which raised the death rate of March and April to an unusual degree.

## Mortality of Early Life.

Of the 122,841 deaths occurring at all ages, 41,544 were under 5 years of age, or 33.80 per cent of the total mortality, for the entire year. In July, as is customary, the infant mortality exceeded 50 per cent of the total; in August it approached that proportion. The foregoing table shows that for the three summer months 33.92 per cent of the mortality occurred under the age of 5 years; for the three spring months, 23.68 per cent; for the fall months, 21.74 per cent; and the lowest proportion of the year occurred in the winter months, or 20.66 per cent.

The average daily number of deaths under 5 years of age, by months, was as follows:

| | |
|---|---|
| January | 99 |
| February | 99 |
| March | 110 |
| April | 111 |
| May | 100 |

| | |
|---|---|
| ..... | 96 |
| ..... | 202 |
| ..... | 160 |
| ber ..... | 124 |
| ..... | 97 |
| ber ..... | 77 |
| ber ..... | 90 |

fall months are seen to be the season of least infant
ty.

ummarize, the mortality, so far as it is influenced by
by age, by zymotic diseases and by consumption, the fol-
table, showing this for a number of years, is prepared:

## COMPARATIVE MORTALITY FOR THE FOUR SEASONS.

| SEASONS. | Total number of deaths. | Percentage of the total mortality for the year. | Percentage of deaths under five years of age. | Zymotic deaths per 1,000 deaths from all causes. | Deaths from consumption per 1,000 deaths from all causes. |
|---|---|---|---|---|---|
| 1888. | | | | | |
| In the winter months.... | 25,267 | 24.19 | 32.00 | 177.36 | 127. |
| In the spring months.... | 26,711 | 25.57 | 31.00 | 146.97 | 132. |
| In the summer months.. | 28,865 | 27.46 | 46.83 | 317.72 | 97. |
| In the fall months..... | 23,306 | 22.31 | 36.00 | 222.86 | 121. |
| 1889. | | | | | |
| In the winter months... | 24,889 | 23.88 | 33.60 | 173.78 | 121 |
| In the spring months ... | 26,982 | 25.89 | 31 36 | 166.33 | 125. |
| In the summer months.. | 28,549 | 27.39 | 45 16 | 303.47 | 103 |
| In the fall months..... | 23,600 | 22.64 | 31.50 | 187.12 | 123. |
| 1890. | | | | | |
| In the winter months... | 29,435 | 25.19 | 23.42 | 108.50 | 141 |
| In the spring months.. | 26,811 | 23.95 | 31.14 | 120.78 | 124. |
| In the summer months.. | 29,817 | 25.52 | 45.60 | 283.70 | 100. |
| In the fall months..... | 24,460 | 20.94 | 33.60 | 176.00 | 123. |
| 1891. | | | | | |
| In the winter months... | 27,014 | 21.81 | 30.78 | 138.62 | 119. |
| In the spring months... | 38,866 | 28.15 | 28.23 | 100.24 | 112 |
| In the summer months.. | 31,411 | 25.36 | 45.29 | 279.39 | 97 |
| In the fall months..... | 28,107 | 22.69 | 35.46 | 201.38 | 113. |
| 1892. | | | | | |
| In the winter months... | 35,456 | 28.07 | 26.53 | 120.35 | 100. |
| In the spring months... | 31,791 | 25.17 | 27.92 | 130.36 | 117. |
| In the summer months.. | 33,533 | 26.55 | 45.40 | 283.45 | 94. |
| In the fall months..... | 27,150 | 21.50 | 33.78 | 194 60 | 108. |
| 1893. | | | | | |
| In the winter months... | 29,371 | 23 92 | 20.66 | 139.52 | 108. |
| In the spring months ... | 34,583 | 28.16 | 23.68 | 120.13 | 111. |
| In the summer months.. | 32,102 | 26.11 | 33.92 | 238.90 | 99. |
| In the fall months..... | 26,785 | 21.81 | 21.74 | 198.00 | 109. |

## The Zymotic Mortality of 1893.

statistics of zymotic diseases include only the common
rs of this class and do not include consumption, influenza,
ral diseases, etc. There were 22,346 deaths during the
om cerebro-spinal fever, typhoid fever, malarial diseases,
ox, scarlet fever, measles, erysipelas, whooping cough,
nd diphtheria and diarrhoeal diseases; these constituting
mmon zymotic diseases. None of these have prevailed
vely during the year. Epidemic influenza should be
d among the diseases of this class, but it is an exotic
, although now for several years recurring. Only the com-
d constant infectious and contagious diseases are included.
pared with foregoing years the actual number of deaths
ese diseases is as follows:

| | Deaths from all causes. | Average daily death rate. | Deaths from zymotic diseases. | Average daily zymotic death rate. | Deaths from zymotic diseases per 1,000 deaths from all causes. |
|---|---|---|---|---|---|
| ..... | 103,969 | 300 | 22,950 | 63 | 220.80 |
| ..... | 104,119 | 300 | 21,961 | 60 | 207.66 |
| ..... | 118,552 | 325 | 19,598 | 54 | 175.00 |
| ..... | 122,398 | 335 | 21,826 | 57 | 178.80 |
| ..... | 128,015 | 350 | 23,200 | 64 | 181.18 |
| ..... | 122,841 | 336 | 22,346 | 61 | 181.85 |

nortality for the year, allowing for the increase in popula-
lower than preceding years.

following shows the proportion of deaths from zymotic
to the population:

| | Death rate from all causes per 1,000 population. | Death rate from zymotic diseases per 1,000 population. | Number of Living Population to One Death. | |
|---|---|---|---|---|
| | | | From all causes. | From zymotic diseases. |
| ..... | 17.62 | 3.82 | 57.68 | 261.40 |
| ..... | 17.00 | 3.58 | 58.68 | 287.00 |
| ..... | 18.85 | 3.14 | 52.75 | 318.80 |
| ..... | 19.20 | 3.42 | 52.10 | 291.60 |
| ..... | 19.70 | 3.57 | 50.78 | 281.00 |
| ..... | 19.00 | 3.35 | 58.00 | 296.70 |

With the exception of 1890, the death rate from zymotic diseases is lower than it has been for six years, as compared with the living. The population for these years are estimated, being based on the ratio of increase of 125,000 per annum, which is less than the more recent increase.

The effect of season upon the zymotic mortality is shown by the following:

In each 1,000 deaths there were from zymotic diseases:

| YEAR. | Winter. | Spring. | Summer. | Autumn. | Entire year. |
|---|---|---|---|---|---|
| In 1885 | 135.85 | 144.44 | 325.74 | 209.05 | 222.17 |
| In 1886 | 161.51 | 142.70 | 294.18 | 237.46 | 217.33 |
| In 1887 | 177.30 | 167.05 | 338.66 | 220.93 | 227.80 |
| In 1888 | 177.36 | 146.97 | 317.72 | 221.96 | 220.80 |
| In 1889 | 173.77 | 166.47 | 303.47 | 187.12 | 207.66 |
| In 1890 | 105.05 | 117.93 | 216.48 | 176.65 | 175.00 |
| In 1891 | 135.61 | 105.11 | 276.28 | 236.95 | 178.80 |
| In 1892 | 120.35 | 130.36 | 283.45 | 194.00 | 181.18 |
| In 1893 | 139.52 | 120.13 | 238.90 | 198.00 | 181.85 |

The high summer death-rate shown by the above is due to the prevalence of diarrhoea among children. Of 9,000 deaths from this cause during the year, 6,000 occurred in June, July and August. The death-rate from most of the other zymotic diseases is less in the summer than in the other seasons.

The following shows the proportions relatively one to another in the different seasons of 1893, and the eight years preceding of each of these zymotic diseases:

*Winter.*

| YEARS. | Total zymotic diseases. | Total per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Diphtheria. | Diarrhœal diseases. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1885 | 3,306 | 135.85 | 3.5 | 7.4 | 6.4 | .... | 11.0 | 13.5 | 3.2 | 4.9 | 41.9 | 8.7 |
| 1886 | 3,265 | 161.51 | 3.1 | 5.6 | 5.5 | 0.5 | 11.3 | 1.4 | 3.3 | 12.0 | 47.6 | 7.2 |
| 1887 | 3,882 | 177.30 | 3 9 | 6.3 | 5.0 | 1.2 | 6.5 | 24.0 | 2.5 | 4.0 | 39.1 | 7.1 |
| 1888 | 4,077 | 177.36 | 2 5 | 7.4 | 4.4 | 1.0 | 16.5 | 4.0 | 2.2 | 2.6 | 51.1 | 6.8 |
| 1889 | 4,324 | 173.73 | 2.1 | 6.8 | 3.0 | 0.8 | 19.5 | 10.1 | 2.1 | 7.7 | 41.3 | 6.0 |
| 1890 | 3,192 | 105.00 | 3.2 | 10.0 | 4.7 | .... | 8.2 | 3.9 | 2.6 | 9.0 | 49.0 | 9.0 |
| 1891 | 3,599 | 138.62 | 3.2 | 11.7 | 3.7 | .... | 14.9 | 10.6 | 3.4 | 6.7 | 39.0 | 9.6 |
| 1892 | 4,267 | 120 35 | 3.4 | 9.3 | 2.8 | 0.2 | 19.5 | 5.8 | 3.8 | 3.0 | 45.0 | 7.2 |
| 1893 | 4,128 | 139.52 | 2.8 | 9.2 | 2.6 | 1.4 | 15.8 | 6.2 | 3.3 | 7.4 | 43.3 | 9.0 |
| Averages | ..... | 147.70 | 3.1 | 8.1 | 4.2 | 0.5 | 13.7 | 8.8 | 3.0 | 6.4 | 44.1 | 7.8 |

*Spring.*

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1885 | 3,130 | 144.44 | 4.0 | 5.9 | 7.0 | .... | 12.7 | 17.1 | 4.6 | 5.4 | 31.9 | 11.3 |
| 1886 | 3,110 | 142.70 | 5.8 | 6.1 | 7.3 | 0.6 | 11.7 | 2.9 | 4.4 | 11.0 | 40.7 | 9.3 |
| 1887 | 3,899 | 167.05 | 3.8 | 4.2 | 5.0 | 2.0 | 8.3 | 9.2 | 3.3 | 2.7 | 58.9 | 22.5 |
| 1888 | 4,074 | 146.97 | 4.7 | 4.5 | 4.4 | 2.6 | 18.8 | 6.0 | 3.2 | 3.5 | 43.1 | 8.7 |
| 1889 | 4,488 | 166.33 | 2.6 | 4.6 | 3.2 | .... | 22 8 | 9.0 | 2 6 | 9.2 | 37.2 | 8.0 |
| 1890 | 3,363 | 117.90 | 4.7 | 6.4 | 4.0 | .... | 8.5 | 14.5 | 3.7 | 7.6 | 40.7 | 10.0 |
| 1891 | 3,695 | 100.24 | 5.9 | 8.4 | 3.3 | .... | 19.4 | 13.5 | 3.2 | 8.3 | 30.3 | 9.5 |
| 1892 | 4,144 | 130.36 | 5.4 | 5.9 | 3.1 | 0.7 | 18.8 | 12.8 | 4.6 | 4.3 | 36.2 | 8.5 |
| 1893 | 4,155 | 120.13 | 8.5 | 7.7 | 2.6 | 1.7 | 14.7 | 5.8 | 3.3 | 10.3 | 33.7 | 11.6 |
| **Averages** | 4,155 | 137.34 | 5.5 | 6.0 | 4.4 | 0 8 | 15.1 | 10.2 | 3.6 | 6.9 | 35.9 | 11.2 |

PERCENTAGE OF DEATHS FROM EACH ZYMOTIC DISEASE TO TOTAL ZYMOTIC MORTALITY, ETC. — (*Concluded*).

*Summer.*

| YEARS. | Total zymotic diseases. | Total per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Diphtheria. | Diarrhœal diseases. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1885 | 7,663 | 325.74 | 1 6 | 2 8 | 3.5 | .... | 3.3 | 3.3 | 0.8 | 3.2 | 11.2 | 70 1 |
| 1886 | 7,027 | 294.18 | 2.1 | 3.1 | 2 5 | .... | 2.3 | 2.6 | 0.7 | 5.3 | 15.3 | 66.3 |
| 1887 | 9,174 | 337.66 | 1.6 | 3.8 | 2.5 | 0.3 | 2.5 | 1.4 | 0.6 | 1.5 | 12.5 | 78.0 |
| 1888 | 9,267 | 317.72 | 1.1 | 3.1 | 2.1 | 0.2 | 5.3 | 3.4 | 0 6 | 3.4 | 13.5 | 67.2 |
| 1889 | 8,674 | 305.47 | 1.2 | 4.4 | 2.4 | .... | 3.1 | 1.3 | 0.5 | 4.2 | 12 1 | 70 3 |
| 1890 | 8,454 | 216.40 | 1.5 | 3.9 | 2.4 | .... | 1.7 | 3.7 | 0.6 | 4.3 | 10.4 | 71 4 |
| 1891 | 8,776 | 279.39 | 1.5 | 3.8 | 1.8 | .... | 5.7 | 3.0 | 0.8 | 2.0 | 10.1 | 70.8 |
| 1892 | 9,505 | 383.45 | 1.8 | 4.1 | 1.9 | 0.4 | 3.4 | 4.8 | 0.8 | 3.4 | 9.7 | 69.8 |
| 1893 | 8,789 | 238.90 | 2.7 | 3.7 | 1.8 | 0.4 | 3.4 | 2.5 | 0.6 | 3.9 | 12.1 | 69.3 |
| **Averages** | ..... | 298.77 | 1.7 | 3.7 | 2.3 | 0.1 | 3.4 | 3.0 | 0.7 | 3.5 | 11.9 | 69.8 |
| | | | | | *Autumn.* | | | | | | | |
| 1885 | 3 75 | 209.05 | 2.2 | 11.2 | 7.1 | 0.5 | 4.5 | 0.9 | 1.2 | 5 6 | 32.5 | 34.2 |
| 1886 | 4 725 | 237.46 | 2.5 | 11 1 | 6.1 | .... | 3.3 | 5 6 | 1.3 | 5.0 | 34.2 | 30.6 |
| 1887 | 5,076 | 220.93 | 2.1 | 11 5 | 6.5 | 0.4 | 6.5 | 1 2 | 1.0 | 1.5 | 42.2 | 28.0 |
| 1888 | 5 153 | 221.86 | 1.6 | 14.0 | 5.3 | 0.6 | 8.0 | 2.5 | 0.7 | 6.5 | 23.0 | 37.6 |
| 1889 | 3,4 5 | 187.12 | 1.7 | 19.8 | 7 2 | .... | 4.8 | 1 2 | 1.4 | 6.2 | 41.4 | 45.1 |
| 1890 | 4 326 | 170.60 | 2 0 | 15.4 | 5.4 | .... | 4.6 | 3.5 | 0.9 | 5.7 | 24.2 | 38.0 |
| 1891 | 5 660 | 201.38 | 2.5 | 14.4 | 3.8 | .... | 6.9 | 1.5 | 0.9 | 2.5 | 25.2 | 41.9 |
| 1892 | 5 283 | 194.00 | 2.3 | 12 7 | 3 7 | 1 0 | 5.7 | 2.2 | 1.1 | 4.7 | 30.7 | 35.9 |
| 1893 | 5,3 4 | 198.00 | 2.8 | 13.4 | 2.7 | 1.8 | 3.3 | 1.8 | 0 8 | 3.5 | 32.2 | 39.2 |

study of the above in detail will show the comparative ılence of each of the zymotic diseases, season after season, ıe past nine years.

has been shown by a preceding table, the infant mortality s much with the zymotic, since the important zymotic dis- are diseases of early life, the spring being the only excep- Thus, for the year, there were:

| | Percentage of Deaths. | |
|---|---|---|
| | Under five years of age. | From zomotic diseases |
| g the Winter months | 20.66 | 18.80 |
| g the Spring months | 23.68 | 18.55 |
| g the Summer months | 33.92 | 39.25 |
| g the Fall months | 21.74 | 23.04 |

## Epidemic Influenza (Grippe.)

the commencement of the year an epidemic of this dis- was in progress. During the two months of November December, 1892, it was estimated to have caused about 400 s. In January 600 deaths were attributed to this cause; ebruary, 500; in March there was a marked increase, to ; in April 2,000 deaths were probably due to it; in May umber had fallen to 500, and in June the epidemic had d. The entire epidemic caused 5,800 deaths.

s is the fourth recurrence of this disease, which began at lose of 1889. A sketch of these was made in the last ıl report. The series of epidemics were as follows:

| IME OF OCCURRENCE. | Acme reached. | Duration. | Number deaths. |
|---|---|---|---|
| 90 | January, 1890 | 3 months... | 5,000 |
| ; of 1891 | April, 1891 | 6 months... | 8,000 |
| 2 | January, 1892 | 5 months... | 8,000 |
| | April, 1893 | 6 months... | 6,000 |

The disease has caused thus far about 27,000 deaths. There has been an interval of from six to nine months between epidemics. The first was fulminant, the rest have been very gradual in their onset, lasting two or three months before reaching their height. As in 1892, so this year, a recurrence of the disease has appeared in December, 1893, and during this month has caused 1,000 deaths.

## Typhoid Fever.

There were 1,674 deaths from typhoid fever in 1893. This is less than in 1892 by seventy-three deaths, and less than in 1891, which was a year of unusual prevalence, by 270 deaths. Eight per cent of the total zymotic mortality was from this cause, which is nearly the average for the past nine years:

22.0 per cent of the deaths occurred in the winter months.

19.0 per cent of the deaths occurred in the spring months.

19.0 per cent of the deaths occurred in the summer months.

40.0 per cent of the deaths occurred in the fall months.

The largest number of deaths occurred in October, 253, or about 15 per cent of the number for the year.

As to the distribution of the mortality, the proportion of deaths to living population in the sanitary districts is shown by the following:

In each 100,000 population there were in the:

| | Deaths from typhoid fever. | Percentage of city population. |
|---|---|---|
| Maritime district | 19.88 | 87.27 |
| Hudson Valley district | 41.60 | 40.72 |
| Adirondack and Northern district | 24.05 | 7.50 |
| Mohawk Valley district | 30.00 | 30.93 |
| Southern Tier district | 25.37 | 28.75 |
| East Central district | 24.05 | 23.75 |
| West Central district | 21.29 | 12.28 |
| Lake Ontario and Western district | 34.23 | 64.50 |
| Entire State | 25.28 | 72.40 |

In the bulletin, about 150 localities, including the cities and arger villages, are individually specified, and the remainder of he returns, coming from the smaller rural and sparsely settled owns, are placed together in each of the sanitary districts under ie head of "Rest of District." The proportion of deaths from yphoid fever to living population in these respective groups, Specified Localities" and "Rest of District," as thus defined, are hown by the following:

In each 100,000 population there were in the:

| | Deaths from Typhoid Fever in | |
|---|---|---|
| | "Specified localities" | "Rest of District." |
| aritime district | 19.50 | 33.35 |
| udson Valley district | 53.64 | 23.83 |
| dirondack and Northern district | 33.28 | 21.00 |
| ohawk Valley district | 33.35 | 25.75 |
| uthern Tier district | 42.46 | 14.72 |
| ast Central district | 27.85 | 21.61 |
| 'est Central district | 28.13 | 18.48 |
| ake Ontario and Western district | 38.42 | 24.16 |
| Entire State | 26.50 | 22.38 |

It should be noted that the delayed returns of deaths re mostly from rural towns and therefore the reports f death from typhoid fever among them should e credited mostly to the class of "Rest of District," in ie above. But there were not more than thirty all told of these, id they would not very materially change the proportions given. ontrary to what is customary, it is seen that there were more eaths in proportion to population in the large towns than in ie sparsely inhabited portions of the State. The only exception this is in the maritime district, where, in the cities, which ontain more than 87 per cent of the population, there was ie lowest death rate from typhoid fever of any part of the tate. This is not new, but the records of past years uniformly

show that New York city is relatively the freest from this ease of any community in this State. The highest city de rate, as also the highest death-rate for the entire district, f typhoid fever, occurred in the Hudson valley district, w there were 53.64 deaths in each 100,000 of the city popula and 23.83 in each 100,000 of the population outside of the c and villages. In the city of Albany there were 57.14 deaths 100,000 population from typhoid fever, a higher rate than th last year, although the disease is less prevalent in the Sta large; in Troy, 60.00, and in Poughkeepsie, 95.00. Nearly one of the deaths for the entire district occurred in these t cities, although their combined population is less than fourth that of the district. Reference to the prevalence of disease in this portion of the State was made in the last an report. In the Southern Tier district, which shows the largest city death-rate from typhoid fever, there were in two cities of Binghamton and Elmira, 45.00 deaths per 10 population.

The proportion of deaths from typhoid fever to the total tality, in the sanitary districts, for seven years, is shown b following:

IN EACH 1,000 DEATHS THERE WERE IN THE —

| | FROM TYPHOID FEVER. | | | | | | | Average. |
|---|---|---|---|---|---|---|---|---|
| | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | |
| Maritime district | 8.55 | 8.66 | 9.65 | 9.26 | 8.81 | 8.50 | 8.74 | 8.90 |
| Hudson Valley district | 27.27 | 32.22 | 23.14 | 26.36 | 30.47 | 18.86 | 23.38 | 26.39 |
| Adirondack and Northern district | 24.00 | 18.34 | 23.01 | 13.33 | 19.60 | 19.63 | 21.40 | 19.65 |
| Mohawk Valley district | 20.45 | 21.98 | 21.32 | 30.71 | 27.76 | 27.69 | 20.47 | 25.00 |
| Southern Tier district | 30.40 | 28.38 | 33.92 | 23.61 | 28.39 | 21.69 | 21.78 | 27.73 |
| East Central district | 20.50 | 28.65 | 24.00 | 18.50 | 26.40 | 14.22 | 17.30 | 22.05 |
| West Central district | 19.05 | 17.28 | 19.53 | 17.49 | 17.57 | 14.03 | 17.68 | 17.50 |
| Lake Ontario and Western district | 19.05 | 23.07 | 21.28 | 21.58 | 23.55 | 22.76 | 21.80 | 21.88 |
| The entire State | 13.75 | 14.18 | 14.86 | 13.79 | 15.52 | 13.25 | 13.65 | 14.22 |

There has been no special or noteworthy prevalence of typh
fever during the year, and no epidemic calling for investigati
The total mortality for the State has been less than usual, a
that reported here, and, in detail, at a later page, elsewh
does not vary materially from the ordinary prevalence, wh
is exhibited, more in this disease than in most others, by
reported mortality.

## Diphtheria.

The reported mortality from diphtheria and croup was 5
to which eighty-five are to be added from delayed returns.
the 22,346 deaths from zymotic diseases, 35.8 per cent were f
diphtheria; the average percentage for nine years past
31.0. The actual mortality was about the same as in 1892.

Seasonal prevalence was as follows:

30.2 per cent of the deaths occurred in the winter month
23.4 per cent of the deaths occurred in the spring month
17.8 per cent of the deaths occurred in the summer month
28.6 per cent of the deaths occurred in the fall months.

There were 700 deaths from diphtheria in November,
largest of any month. There is every year an increase in
prevalence of this disease in October, which continues thr
the fall and winter months. The autumn increase for
was larger than for the year before, although the total
tality for the two years is the same.

As to the distribution of diphtheria, the proportion of de
to living population is shown by the following:

IN EACH 100,000 POPULATION THERE WERE IN THE—

| | Deaths from diphtheria. | Percent of city |
|---|---|---|
| Maritime district | 114.74 | |
| Hudson Valley district | 82.00 | |
| Adirondack and Northern district | 45.25 | |
| Mohawk Valley district | 57.45 | |
| Southern Tier district | 77.00 | |
| East Central district | 66.47 | |
| West Central district | 47.91 | |
| Lake Ontario and Western district | 64.53 | |
| Entire State | 89.00 | |

The following shows the relative prevalence in the different nitary districts of diphtheria in city and country, the heading pecified localities" including all the cities and large villages, d "rest of district" including little but the rural and sparsely ttled towns.

IN EACH 100,000 POPULATION THERE WERE IN THE—

| | DEATHS FROM DIPHTHERIA IN— | |
|---|---|---|
| | "Specified localities." | "Rest of district." |
| aritime district | 115.73 | 81.37 |
| idson Valley district | 101.87 | 52.50 |
| lirondack and Northern district | 71.32 | 36.02 |
| ohawk Valley district | 82.29 | 35.05 |
| uthern Tier district | 142.60 | 32.73 |
| st Central district | 106.33 | 39.26 |
| est Central district | 109.47 | 19.46 |
| ke Ontario and Western district | 77.00 | 34.51 |
| ntire State | 108.41 | 39.26 |

In general it appears from these tables that diphtheria is very uch more prevalent in the city than in the country. In the outhern Tier District, in the first of the two preceding tables, marked deviation is seen from this, in that it shows a high eath rate, although it has a low percentage of city population; ne cause for this is that in several localities in the western part f this district diphtheria was extensively prevalent, notably in amestown and towns adjacent, during the early fall. The cond table shows that its mortality was chiefly in the larger wns.

The proportion of deaths from diphtheria to deaths from all uses, in the sanitary district, since 1887, is shown by the llowing:

IN EACH 1,000 DEATHS THERE WERE IN THE—

| | FROM DIPHTHERIA. | | | | | | | Average. |
|---|---|---|---|---|---|---|---|---|
| | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | |
| Maritime district | 75.40 | 67.95 | 63.00 | 49.10 | 46.41 | 47.90 | 50.45 | 58.30 |
| Hudson Valley district | 58.50 | 64.27 | 65.00 | 13.30 | 30.96 | 56.36 | 46.30 | 48.07 |
| Adirondack and Northern district | 49.00 | 46.57 | 33.87 | 37.90 | 33.13 | 29.33 | 40.70 | 38.30 |
| Mohawk Valley district | 67.40 | 65.52 | 52.12 | 52.72 | 31.45 | 45.63 | 39.80 | 52.47 |
| Southern Tier district | 44.40 | 34.18 | 34.54 | 35.28 | 41.97 | 50.26 | 64.50 | 40.10 |
| East Central district | 30.60 | 43.10 | 33.79 | 22.78 | 17.40 | 31.35 | 47.80 | 29.84 |
| West Central district | 30.80 | 23.38 | 27.07 | 16.38 | 8.91 | 19.31 | 40.00 | 21.00 |
| Lake Ontario and Western district | 58.67 | 51.09 | 35.78 | 32.64 | 42.03 | 57.11 | 40.25 | 46.22 |
| The entire State | 67.24 | 61.73 | 56.12 | 42.07 | 40.78 | 46.86 | 48.36 | 52.46 |

## Scarlet Fever.

ıe reported deaths for the year from scarlet fever were 5. It is exceeded in number only by diphtheria and rhoeal diseases. Nine and eight-tenths per cent of the otic mortality was from scarlet fever; the average pro-ion for the past nine years is a little less, 9.4 per cent. total reported mortality for each year beginning with 1888 s follows: 2,378, 2,312, 832, 2,173, 2,228, and in 1893, 1,715.

## Seasonal Prevalence of Scarlet Fever.

.5 per cent of the deaths occurred in the winter months.
.5 per cent of the deaths occurred in the spring months.
.5 per cent of the deaths occurred in the summer months.
.5 per cent of the deaths occurred in the fall months.

ıis proportion varies little from that of former years; a e proportion of the deaths occur in the first half of the ; it is generally least prevalent in the summer. In this ect it follows the course of diphtheria.

s to the distribution of scarlet fever, the proportion of hs to living population is shown by the following:

IN EACH 100,000 POPULATION, THERE WERE IN THE —

| | Deaths from scarlet fever. | Percentage of city population. |
|---|---|---|
| time district | 30.29 | 87.28 |
| son Valley district | 33.86 | 40.72 |
| ondack and Northern district | 10.86 | 7.50 |
| awk Valley district | 16.75 | 30.93 |
| hern Tier district | 17.49 | 28.75 |
| Central district | 7.24 | 23.75 |
| t Central district | 9.97 | 12.28 |
| Ontario and Western district | 32.08 | 64.50 |
| e State | 25.89 | 72.40 |

ıe relative prevalence of scarlet fever in city and country ng the year is further shown by the following comparison eaths to population in cities and villages, under the head-

ing "Specified Localities," and in rural towns, under the heading "Rest of District."

IN EACH 100,000 POPULATION, THERE WERE IN THE—

| | DEATHS FROM SCARLET FEVER IN | |
|---|---|---|
| | "Specified localities." | "Rest of district." |
| Maritime district | 30.61 | 19.61 |
| Hudson Valley district | 44.48 | 18.31 |
| Adirondack and Northern district | 15.21 | 9.37 |
| Mohawk Valley district | 27.25 | 7.23 |
| Southern Tier district | 32.96 | 7.77 |
| East Central district | 12.66 | 3.53 |
| West Central district | 16.07 | 7.30 |
| Lake Ontario and Western district | 37.53 | 18.98 |
| Entire State | 31.30 | 11.89 |

## Measles.

The number of deaths reported from measles in 1893, was 801.

The number of deaths from this cause for years preceding was as follows:

| | |
|---|---|
| In 1885 | 1,170 |
| In 1886 | 895 |
| In 1887 | 1,205 |
| In 1888 | 850 |
| In 1889 | 1,004 |
| In 1890 | 1,007 |
| In 1891 | 1,239 |
| In 1892 | 1,346 |

The mortality was the least for any year on record. Since the spring of 1892, when there was an excessive prevalence of measles, lasting on through June, it has diminished in frequency. The smallest number of deaths, in one month, on record, was in October last, when but fourteen deaths were reported from it.

Since July, but three deaths from measles have been reported from outside of the Maritime district. During the first half of the year it was distributed in all section of the State. About

00 deaths, or one-eighth of the mortality occurred outside of he cities and large villages.

The ratio of deaths to the total reported mortality from all auses was 6.5 per 1,000, and the death rate from this cause was )12 per 1,000 living population.

## Whooping Cough.

From whooping cough there were 1,212 deaths reported during he year; 5.3 per cent of the zymotic mortality, and .09 per ent of the deaths from all causes. The number of deaths since 888, each year, is as follows:

| | |
|---|---|
| n 1888 | 902 |
| n 1889 | 1,332 |
| n 1890 | 1,169 |
| n 1891 | 835 |
| n 1892 | 880 |
| n 1893 | 1,212 |

During this period of five years, a sudden increase in the revalence of whooping cough is noted to have occurred in July, 888, which continued, with little change so far as the monthly eported mortality is concerned through August of the fol- )wing year; there was then a subsidence until July, 1890, when fresh increase set in which lasted for three months; then the isease subsided in prevalence and for the two following years he mortality was slight; in February, of 1893, again a marked revalance begun somewhat abruptly and continued through ugust, since which time it has fallen to a low rate of mortality.

As to seasonal prevalence, whooping cough has followed no rder of preference. For eight years preceding 1893, the total ortality by seasons was as follows:

In the winter months there were 2,004 deaths from whooping )ugh.

In the spring months there were 1,720 deaths from whooping )ugh.

In the summer months there were 2,350 deaths from whooping ugh.

In the fall months there were 1,446 deaths from whooping cough.

For the year 1893 there were:

In the winter months, 297 deaths from whooping cough.

In the spring months, 426 deaths from whooping cough.

In the summer months, 298 deaths from whooping cough.

In the fall months, 191 deaths from whooping cough.

It would appear to develop and continue somewhat more readily in the summer months. An epidemic, however, pursues its course, having once started, uninfluenced by season, and its mortality does not appear to be checked by the advent of mild weather.

As to the distribution of the 1,212 deaths, all but 125, or 90 per cent occurred in the cities and large villages, which represent less than 75 per cent of the population; 917 or more than three-fourths of the deaths occurred in the Maritime district in which is a little less than one-half of the population; seventy-eight deaths or 6.5 per cent, occurred in both the Hudson Valley district and in the Lake Ontario and Western district, in each of which about one-tenth of the population of the State. There were deaths from whooping cough in all parts of the State, and in the rural as well as in urban localities, but although thus wide spread it is apparent that its prevalence and mortality is much greater in the cities than in the country.

## Cerebro-Spinal Fever.

There were 853 deaths from cerebro-spinal fever which was 3.5 per cent of the zymotic mortality, and .06 per cent of the total mortality.

The deaths from this cause for the six years past is as follows:

| | |
|---|---|
| In 1888 | 499 |
| In 1889 | 392 |
| In 1890 | 482 |
| In 1891 | 687 |
| In 1892 | 657 |
| In 1893 | 853 |

It has been a year of unusual prevalence. Cerebro-spinal ver has not, however, deviated, so far as its total mortality for ie entire State shows, from a pretty uniform rate. For the ast nine years the number of deaths has never reached so many 100 in one month, until in April and May of 1893, when there curred, respectively, 105 and 159 deaths.

Its seasonal prevalence is always marked, the spring months, shown by the records, being always the time of its especial evalence.

During the past nine years there were:

In the winter months, 1,202 deaths from cerebro-spinal fever.

In the spring months, 1,613 deaths from cerebro-spinal fever.

In the summer months, 1,274 deaths from cerebro-spinal fever.

In the fall months, 929 deaths from cerebro-spinal fever.

Relatively, 24 per cent of the deaths from cerebro-spinal fever curred in the winter; 32 per cent in the spring; 25 per cent the summer and 19 per cent in the autumn.

There were about sixteen deaths per 100,000 population in ties, and five per 100,000 population in rural towns.

## Diarrhoeal Diseases.

There were 9,046 deaths from diarrhoeal diseases reported ring the year; 31.4 per cent of the entire zymotic mortality d 7.4 per cent of the whole number of deaths from all causes. hey caused a larger mortality than any other of the prevent- le diseases. Under this head is included cholera infantum, chol- a morbus, diarrhoea and dysentery. Their seasonal prevalence shown by the reported mortality for each month, as follows:

| | |
|---|---|
| nuary | 141 |
| bruary | 141 |
| rch | 163 |
| pril | 143 |
| ay | 175 |
| ne | 478 |
| ly | 3,206 |
| gust | 2,406 |
| ptember | 1,395 |

October .....
November .....
December .....

For the first five months of the year and the two last t
were about 150 deaths a month; in June and November a
500, and in July, August and September there were about 7
of the 9,000 deaths.

It is during these three months of largest diarrhoeal p
lence that the infant mortality is highest; from 40 to 50
cent of the total mortality.

The apparently normal death rate from diarrhoeal dis
of 150 deaths monthly, or 1,800 deaths for the year, is incre
by about 7,000 deaths for the year by conditions favorin
prevalence that arise with the approach and continuanc
warm weather.

| | From Diarrhœal Diseases. | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. |
| Maritime district | 107.00 | 91.58 | 86.04 | 82.58 | 82.29 | 86.10 | 80.17 |
| Hudson Valley district | 71.30 | 67.18 | 61.30 | 40.64 | 58.97 | 59.56 | 56.85 |
| Adirondack and Northern district | 63.00 | 60.55 | 62.00 | 43.28 | 69.23 | 45.88 | 43.97 |
| Mohawk Valley district | 73.60 | 61.60 | 65.90 | 56.39 | 52.69 | 41.54 | 55.31 |
| Southern Tier district | 71.20 | 54.02 | 58.11 | 52.72 | 53.37 | 41.95 | 50.96 |
| East Central district | 56.60 | 72.71 | 80.65 | 57.34 | 68.47 | 46.29 | 49.27 |
| West Central district | 58.30 | 37.96 | 46.53 | 44.54 | 37.87 | 28.51 | 39.69 |
| Lake Ontario and Western district | 113.10 | 99.43 | 88.63 | 75.90 | 73.22 | 78.09 | 98.48 |
| The entire State | 96.00 | 84.00 | 79.56 | 72.48 | 74.15 | 72.72 | 73.64 |

The distribution of diarrhoeal mortality is shown by the following:

IN EACH 100,000 POPULATION THERE WERE IN THE —

| | Deaths from diarrhoeal diseases. | Percentage of city population. |
|---|---|---|
| Maritime district | 182.37 | 87.38 |
| Hudson Valley district | 100.71 | 40.72 |
| Adirondack and Northern district | 48.88 | 7.30 |
| Mohawk Valley district | 79.77 | 30.99 |
| Southern Tier district | 59.36 | 28.75 |
| East Central district | 68.55 | 23.75 |
| West Central district | 47.59 | 12.38 |
| Lake Ontario and Western district | 154.93 | 64.50 |
| Entire State | 136.54 | 72.40 |

IN EACH 100,000 POPULATION THERE WERE IN THE —

| | DEATHS FROM DIARRHOEAL DISEASES IN — | |
|---|---|---|
| | Cities and villages. | Rural towns. |
| Maritime district | 182.48 | 175.50 |
| Hudson Valley district | 137.15 | 47.67 |
| Adirondack and Northern district | 98.00 | 31.00 |
| Mohawk Valley district | 114.54 | 48.45 |
| Southern Tier district | 93.17 | 38.46 |
| East Central district | 111.40 | 39.26 |
| West Central district | 78.34 | 35.50 |
| Lake Ontario and Western district | 197.00 | 54.00 |
| Entire State | 168.66 | 50.00 |

## Malarial Diseases.

There were 506 deaths reported from malarial diseases — 23 per cent of the zymotic mortality and about .04 per cent of the total reported mortality.

The reported mortality from malarial diseases for the past six years is as follows:

| | |
|---|---|
| In 1888 | 842 |
| In 1889 | 742 |
| In 1890 | 732 |

| | |
|---|---|
| 1891 | 631 |
| 1892 | 620 |
| 1893 | 506 |

There were reported:

In the winter months, 103 deaths from malarial diseases.

In the spring months, 111 deaths from malarial diseases.

In the summer months, 149 deaths from malarial diseases.

In the fall months, 143 deaths from malarial diseases.

From malarial diseases there were reported per 100,000 population:

| | Deaths. |
|---|---|
| the entire State | 7.60 |
| the Maritime district | 10.50 |
| the Hudson Valley district | 10.00 |
| the Adirondack and Northern district | 2.33 |
| the Mohawk Valley district | 4.00 |
| the Southern Tier district | 1.75 |
| the East Central district | 4.65 |
| the West Central district | 4.80 |
| the Lake Ontario and Western district | 3.80 |

It is evident that there is extreme irregularity in the relative proportion of deaths from malarial diseases as reported from different sections of the State. About the same proportion was observed in the reports of 1892.

To trace more closely the source of these reports and the distribution of malarial diseases as reported: There were, for the entire State, nine deaths per 100,000 population, reported from cities and large villages, and four deaths per 100,000 population reported from rural towns. In the Maritime district, however, there were 10.40 deaths per 100,000 population in the cities and villages, and 12.70 in the rest of the district. In the Hudson Valley district, on the other hand, there were 12 deaths per 100,000 population, reported for the urban population, and but six for the rural; and of the entire 506 deaths reported for the State, only seventy came from rural towns, a proportion of one to seven, the proportion of population reporting being one to four.

There are more deaths reported, relatively, from the cities than from the country from malarial diseases. These facts correspond with those previously observed. It is most probable that "malaria," as a reported cause of death is loosely used, and that it is not strictly limited to malaria from paludal sources, but is made to cover other causes of death.

## Small Pox.

There have occurred during the year 234 deaths from small pox, a larger number than previously reported in the same period of time, as shown by the following reported mortality for the eight years preceding from small pox:

| | |
|---|---|
| In 1885 | 21 |
| In 1886 | 46 |
| In 1887 | 168 |
| In 1888 | 211 |
| In 1889 | 43 |
| In 1890 | 4 |
| In 1891 | 4 |
| In 1892 | 126 |

Early in 1892, following two or three years of almost entire freedom from small pox, it commenced to be prevalent in New York and has continued there and in the vicinity since. The largest number of deaths reported in one month was twenty-nine in March, and the next largest was twenty-seven, in November; in June there were ten deaths, the least number during the year.

Outside of the Maritime district there have been no deaths from small pox during the year. Within that district 105 deaths occurred in New York city and 125 in Kings County hospital for contagious diseases, most of them probably to be credited to Brooklyn. Cases have developed during the year, on Long Island, at Gravesend, Flatlands, Southold, Jamaica, College Point, and Islip; and in Westchester county, at Yonkers, Sing Sing, Greenburgh and White Plains.

Outside of the Maritime district single cases appeared, none ending fatally, and without spread in a few places.

At Waterloo two cases developed in January, originating in ravesend.

At Waterford, Saratoga county, there were three cases in arch, which originated in New Jersey.

At Newton's Corners, in Hamilton county, a young man from ew York developed small pox in July.

At Geneva, a single case developed in November, the origin which could not be traced.

At Warwick, Orange county, a case of small pox originating New York, made its appearance in December.

Small pox exists in several States at not remote points, in me of them prolonged epidemics having existed during the ar, but there has been no development from an outside urce except in the case of Waterford, and probably that of eneva.

## Consumption.

This is not placed among the zymotic diseases, but has so lose a relation to them that it should be considered in connecon with them.

There were 13,169 deaths from consumption during the year.

The following is the mortality as reported in the bulletin from nsumption for the past six years:

| | |
|---|---|
| 1 1888 | 12,388 |
| 1 1889 | 12,280 |
| 1 1890 | 13,817 |
| 1 1891 | 13,500 |
| 1 1892 | 13,416 |
| 1 1893 | 13,169 |

In each 1,000 deaths from all causes, there were 107 from nsumption. In the eight years preceding, of 841,000 deaths om all causes, there were 100,314 deaths from consumption, or 19 deaths per 1,000.

The following tables show (a) the actual mortality from conmption, year after year, in the different sanitary districts, nd (b) the relative proportions of these deaths to deaths from ll causes:

REPORTED DEATHS FROM CONSUMPTION IN THE SANITARY DISTRICTS FOR NINE YEARS.

| | Maritime. | Hudson Valley. | Adirondack and Northern. | Mohawk Valley. | Southern Tier. | East Central. | West Central. | Lake Ontario and Western. | Entire State. |
|---|---|---|---|---|---|---|---|---|---|
| 1885 | 7,876 | 1,295 | 359 | 456 | 200 | 342 | 281 | 617 | 11,238 |
| 1886 | 8,069 | 1,330 | 342 | 471 | 187 | 388 | 290 | 937 | 11,947 |
| 1887 | 7,546 | 1,331 | 366 | 485 | 236 | 410 | 285 | 950 | 11,609 |
| 1888 | 7,996 | 1,258 | 381 | 530 | 330 | 467 | 330 | 1,091 | 12,383 |
| 1889 | 8,014 | 1,454 | 381 | 527 | 300 | 476 | 322 | 1,016 | 12,390 |
| 1890 | 8,621 | 1,329 | 415 | 582 | 345 | 533 | 391 | 1,180 | 13,831 |
| 1891 | 8,373 | 1,343 | 460 | 646 | 412 | 546 | 428 | 1,347 | 13,445 |
| 1892 | 8,225 | 1,348 | 493 | 646 | 452 | 538 | 440 | 1,259 | 13,471 |
| 1893 | 8,400 | 1,249 | 455 | 567 | 378 | 543 | 396 | 1,181 | 13,169 |

From the following table we have the proportion to the total mortality of the deaths from consumption.

IN EACH 1,000 DEATHS THERE WERE FROM CONSUMPTION IN THE—

| | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. |
|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 143.51 | 140.52 | 121.80 | 124.10 | 123.20 | 127.73 | 112.11 | 109.00 | 113.40 |
| Hudson Valley district | 144.83 | 137.00 | 134.85 | 114.20 | 130.92 | 121.92 | 110.10 | 101.85 | 103.90 |
| Adirondack and Northern district | 147.82 | 137.90 | 123.00 | 110.91 | 121.76 | 108.50 | 111.35 | 106.28 | 105.86 |
| Mohawk Valley district | 143.67 | 132.80 | 111.25 | 115.36 | 113.50 | 113.50 | 108.08 | 100.36 | 104.54 |
| Southern Tier district | 114.25 | 100.95 | 94.40 | 100.73 | 88.49 | 89.50 | 88.64 | 90.40 | 79.93 |
| East Central district | 139.93 | 131.52 | 118.40 | 110.61 | 110.95 | 108.78 | 106.78 | 95.86 | 100.97 |
| West Central district | 155.08 | 141.08 | 115.40 | 112.20 | 110.35 | 106.83 | 105.94 | 99.00 | 106.19 |
| Lake Ontario and Western district | 130.00 | 125.77 | 105.55 | 103.60 | 104.46 | 106.12 | 102.94 | 97.00 | 95.17 |
| The entire State | 139.76 | 137.66 | 120.35 | 118.55 | 120.01 | 118.37 | 109.50 | 104.80 | 107.21 |

To each 1,000 population there were two deaths during the year from consumption; in 1892 there were 2.07; in 1891, 2.11; in 1890, 2.14; in 1889, 2.00; in 1888, 2.07.

There was one death from consumption:

| | Population. |
|---|---|
| In 1888, to every | 484.53 |
| In 1889, to every | 490.45 |
| In 1890, to every | 451.90 |
| In 1891 to every | 474.15 |
| In 1892, to every | 483.35 |
| In 1893, to every | 500.00 |

As to the seasonal occurrence of the mortality from consumption:

24.28 per cent of the deaths occurred in the winter months.

29.26 per cent of the deaths occurred in the spring months.

24.05 per cent of the deaths occurred in the summer months.

22.31 per cent of the deaths occurred in the fall months.

As to the distribution of the disease the following table show the relations of deaths to population in the different sanitary districts:

IN EACH 100,000 POPULATION THERE WERE IN THE—

| | Deaths from consumption. | Percentage of city population. |
|---|---|---|
| Maritime district | 255.71 | 87.28 |
| Hudson Valley district | 182.30 | 40.72 |
| Adirondack and Northern district | 117.67 | 7.50 |
| Mohawk Valley district | 150.76 | 30.93 |
| Southern Tier district | 93.10 | 28.75 |
| East Central district | 140.46 | 23.75 |
| West Central district | 127.33 | 12.28 |
| Lake Ontario and Western district | 149.73 | 64.50 |
| Entire State | 198.77 | 72.40 |

It seems important to still further trace more closely the relation of consumption to density of population. The following table shows in one column the proportion of deaths to population

in cities and villages, and in another the proportion of deaths to population in more or less sparsely settled country districts.

IN EACH 100,000 POPULATION THERE WERE IN THE—

| | DEATHS FROM CONSUMPTION. | |
|---|---|---|
| | In cities and villages | In rural towns. |
| Maritime district | 248.73 | 468.63 |
| Hudson Valley district | 218.15 | 128.15 |
| Adirondack and Northern district | 181.62 | 95.10 |
| Mohawk Valley district | 192.39 | 113.92 |
| Southern Tier district | 143.87 | 61.78 |
| East Central district | 198.10 | 101.46 |
| West Central district | 175.76 | 107.49 |
| Lake Ontario and Western district | 166.09 | 110.44 |
| Entire State | 226.66 | 124.36 |

These differences in the comparative mortality from consumption in the city and country emphasize more directly than does the preceding table the fact that it is a disease of closely aggregated populations. A preceding table shows the same to be true on comparing the mortality from consumption to that from all causes.

The number of deaths from consumption in each 1,000 deaths from all causes, occurring in the cities and villages of the several sanitary districts, in comparison with the same in rural towns, is shown by the following:

IN EACH 1,000 DEATHS THERE WERE FROM CONSUMPTION IN THE—

| | DEATHS FROM CONSUMPTION. | |
|---|---|---|
| | In cities and villages. | In rural towns. |
| Maritime district | 109.20 | 151.00 |
| Hudson Valley district | 105.15 | 95.55 |
| Adirondack and Northern district | 103.25 | 106.25 |
| Mohawk Valley district | 108.12 | 94.75 |
| Southern Tier district | 89.00 | 63.61 |
| East Central district | 114.75 | 81.22 |
| West Central district | 119.20 | 97.00 |
| Lake Ontario and Western district | 93.00 | 94.20 |
| Entire State | 107.12 | 100.30 |

There are discrepancies in this table, although it shows, in the main, that more deaths occur from consumption in the city than in the country. In the Maritime district an excessively high proportionate rate appears in that portion of the district outside of the limits of the cities, which indicate, what will be found to be the case, their mortality from consumption is greatly exaggerated by deaths from the disease of those sent from the city to numbers of large hospitals in their vicinity; these deaths are credited to the town instead of the city. Perhaps a similar cause operates, to a less degree, in the Lake Ontario and Western district. The Adirondack and Northern district shows a small preponderance of mortality in rural towns, but there is very little urban population in that district, and its death rate from consumption, which is seen to be high in comparison with its total mortality, is increased very much by its being a sanitarium for this disease. In the large cities, too, the large mortality from such diseases as diarrhoea, which are almost confined to them, makes the proportion of deaths from consumption comparatively smaller. Nevertheless we find that for the entire State there were more deaths relatively in the cities from consumption than in the country. In the central counties and districts the table shows a very marked difference in the comparative mortality from consumption in city and country. In the five sanitary districts, the Hudson and Mohawk Valley districts, the Southern Tier and the East and West Central districts, the proportion of deaths from this cause in urban and rural populations is as 107 to 86. As was found last year, in 100,000 population in six large cities, 353 deaths from consumption occurred, while in the same number of people in rural towns there were but 202 deaths.

## Acute Lung Diseases.

During the twelve months (December, 1892, to December, 1893) there were 19,100 deaths reported from acute respiratory diseases. For the year 1893 (January to December) there were 19,800, the excess in December, 1893, over December, 1892, being due to epidemic influenza.

As to seasonal prevalence:

31.1 per cent of the deaths occurred in the winter months.

41.1 per cent of the deaths occurred in the spring months.

12.6 per cent of the deaths occurred in the summer months.

15.2 per cent of the deaths occurred in the fall months.

The ratio of reported deaths from acute lung diseases to the mortality from all causes, compared with former years, is shown by the following list:

In 1,000 deaths from all causes, there were, from acute respiratory diseases:

| | |
|---|---|
| In 1885 | 135.1 |
| In 1886 | 131.2 |
| In 1887 | 120.0 |
| In 1888 | 131.7 |
| In 1889 | 132.7 |
| In 1890 | 154.5 |
| In 1891 | 167.0 |
| In 1892 | 161.8 |
| In 1893 | 160.0 |

The large increase of from twenty-five to thirty deaths in each 1,000 population from acute respiratory diseases for the last four years corresponds with and is proportionate to the occurrence of epidemic influenza, which, in 1890 caused 5,000 deaths; in 1891, 8,000; in 1892, 8,000, and in 1893, 7,000.

## Diseases of the Nervous System.

From this group of diseases occurred the next largest number of reported deaths, viz., 13,826. Of these:

24.2 per cent occurred in the winter months.

29.0 per cent occurred in the spring months.

25.4 per cent occurred in the summer months.

21.4 per cent occurred in the fall months.

It is seen by the reported mortality of other years that the smallest mortality from nervous diseases is in the fall.

The proportion of deaths from nervous diseases to the total mortality for nine years is shown by the following:

In each 1,000 deaths there were, from diseases of the nervous system:

| | |
|---|---|
| In 1885 | 107.6 |
| In 1886 | 101.3 |
| In 1887 | 103.2 |
| In 1888 | 106.9 |
| In 1889 | 108.2 |
| In 1890 | 102.3 |
| In 1891 | 105.3 |
| In 1892 | 110.9 |
| In 1893 | 111.6 |

## Diseases of the Circulatory System.

There were reported during the twelve months 9,032 deaths from diseases of the circulatory system. Of these:

2,424 occurred during the winter months.

2,584 occurred during the spring months.

2,084 occurred during the summer months.

1,940 occurred during the fall months.

The number of deaths attributed to the causes for the nine years, from 1885, is:

| | |
|---|---|
| In 1885 | 4,093 |
| In 1886 | 5,238 |
| In 1887 | 5,737 |
| In 1888 | 6,394 |
| In 1889 | 6,886 |
| In 1890 | 7,306 |
| In 1891 | 8,480 |
| In 1892 | 9,013 |
| In 1893 | 9,042 |

## Diseases of the Digestive System.

There were 8,834 deaths reported from diseases of the digestive system during the year, not including diarrhoeal diseases.

Their seasonal distribution was as follows:

19.8 per cent occurred in the winter months.
23.1 per cent occurred in the spring months.
31.9 per cent occurred during the summer months.
25.2 per cent occurred during the fall months.

The largest proportion of deaths from these diseases occur n the summer and fall months, at the same time that diarrhoeal liseases are most prevalent and fatal.

During the six years, from 1888, there were in each 1,000 leaths from all causes, from diseases of the digestive organs not diarrhoeal):

| | |
|---|---|
| n 1888 | 59.1 |
| n 1889 | 62.1 |
| n 1890 | 64.3 |
| n 1891 | 65.9 |
| n 1892 | 70.1 |
| n 1893 | 71.5 |

Deaths attributed to this class of diseases are undoubtedly ncreased in number by the occurrence of epidemic influenza. n earlier years, prior to its first appearance, there were less han sixty deaths from diseases of the digestive organs per 1,000 eaths from all causes.

## Diseases of the Urinary System.

Of the 6,917 deaths reported from this class of diseases there as the following seasonal distribution:

25.5 per cent occurred in the winter months.
28.5 per cent occurred in the spring months.
23.0 per cent occurred in the summer months.
23.0 per cent occurred in the fall months.

Deaths from diseases of the urinary organs constituted 5.6 er cent of the total mortality.

## Cancer, Accidents and Violence and Old Age.

From these causes of death there were reported during the ear: From cancer, 3,232 deaths; from accidents and violence,

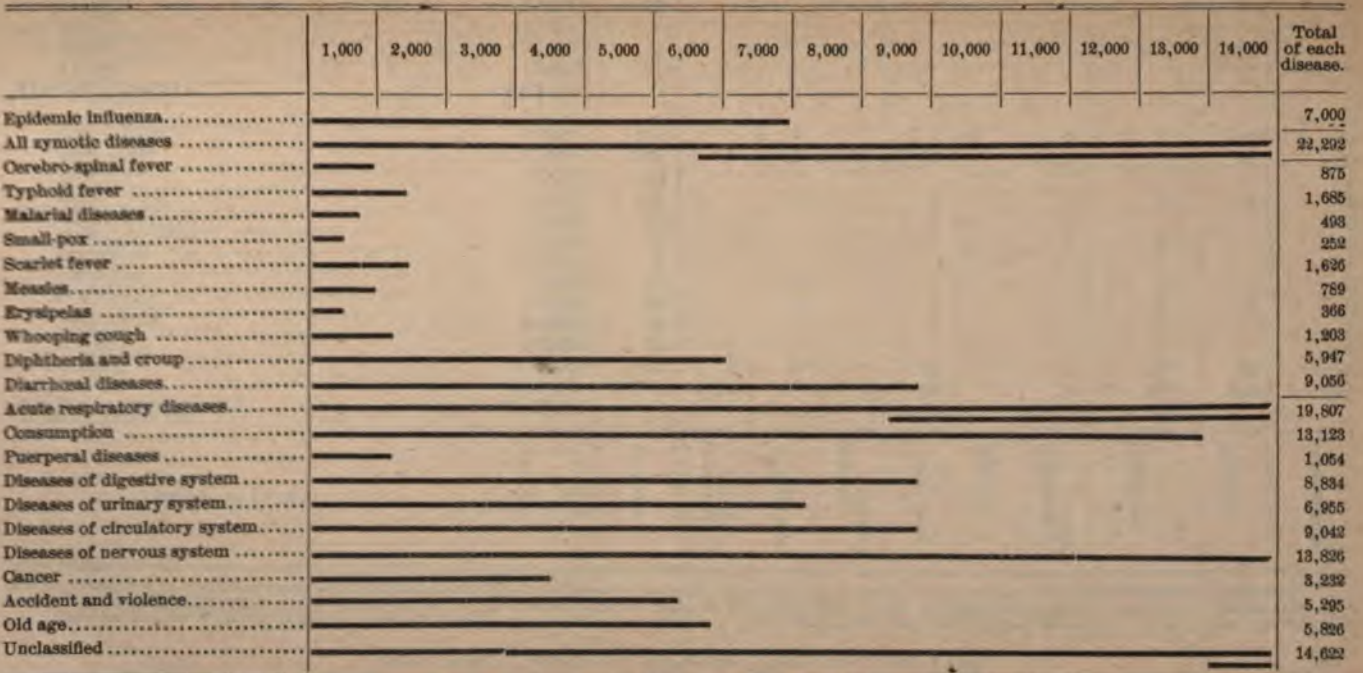
5,295 deaths, and from old age, 5,826 deaths. There were also 14,662 deaths from unclassified causes, which includes most general diathetic diseases as well as reports that are imperfect. These numbers do not differ materially from those reported in former years.

## Summary of Mortality.

The following table exhibits, by the varying length of lines, the relative prevalence of the various groups of diseases, as also of each of the zymotic diseases separately.

## SUMMARY OF MORTALITY FOR 1893.

Total number of deaths from all causes as reported in the Monthly Bulletin, 123,908; deaths from zymotic diseases, 22,292.



## RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, SHOWING TOTAL DEATHS FROM ALL CAUSES AND FROM THE PRINCIPAL ZYMOTIC DISEASES, FOR 1893.

[Cities are printed in SMALL CAPITALS, villages in *italics*, and towns in Roman type. The larger villages only are specified separately; in such case the mortality and population of the remainder of the town is given. The populations are those of the State enumeration of 1892, except that in some of the larger cities they are estimated. Where villages have been noted separately, the population of towns in which they are situated are given with the village population deducted.]

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Albany County** | **167,289** | | | | | | | | | | |
| ALBANY | 98,000 | 2,140 | 14 | 58 | 3 | 29 | .... | 18 | 69 | 103 | 257 |
| COHOES | 23,234 | 478 | 1 | 15 | .. | 35 | .... | 2 | 14 | 69 | 37 |
| Berne | 2,243 | 37 | .... | .... | .... | .... | .... | 1 | ..... | ..... | 4 |
| Bethlehem | 3,961 | 63 | .... | 1 | .... | 2 | .... | ... | 1 | ..... | 3 |
| Coeymans | 3,577 | 64 | .... | 1 | .. | 5 | .... | .... | 3 | 1 | 5 |
| Guilderland | 3,563 | 37 | .... | 1 | .... | .... | .... | .... | 1 | 2 | 3 |
| Knox | 1,350 | 9 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| New Scotland | 3,258 | 44 | .... | .... | .... | 1 | .... | 1 | 2 | ..... | 1 |
| Rensselaerville | 2,066 | 20 | .... | .... | .... | 1 | ... | .... | ..... | ..... | 2 |
| Watervliet | 7,591 | 122 | .. | 2 | .... | 2 | .... | .. | 5 | 5 | 8 |
| Westerlo | 1,859 | 30 | .... | .... | .... | .... | .... | .... | 1 | .... | 1 |
| *West Troy* | 12,967 | 338 | 1 | 11 | .... | 16 | .... | .... | 14 | 31 | 30 |
| *Green Island* | 4,463 | 125 | .... | 8 | .... | .... | .... | 3 | 3 | 17 | 9 |
| **Allegany County** | **43,131** | | | | | | | | | | |
| Alfred | 1,670 | 11 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Allen | 728 | 7 | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| Alma | 1,371 | ..... | ... | .... | ... | .... | .... | .... | ..... | ..... | ..... |
| Almond | 1,413 | 22 | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Amity | 2,051 | 21 | .... | .. | .... | .... | .... | .... | ..... | ..... | ..... |
| Andover | 1,784 | 29 | ... | .. | .... | 1 | ... | | ..... | 1 | 3 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Birdsall | 878 | 9 | .... | .... | .... | .... | 1 | ... | ..... | ..... | ..... |
| Bolivar | 2,219 | 15 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Burns | 1,513 | 28 | .... | .... | .... | .... | .... | .... | ..... | 1 | 4 |
| Caneadea | 1,623 | 21 | .... | .... | .... | .... | .... | .... | ..... | ..... | .... |
| Centerville | 874 | 21 | .... | .... | .... | .... | .... | .... | ..... | 2 | 2 |
| Clarksville | 847 | 7 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Cuba | 2,348 | 3 | .... | ... | ... | .... | .... | .... | ..... | ..... | ..... |
| Friendship | 2,199 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Genesee | 1,107 | 8 | .... | .... | ... | .. | .... | .... | ..... | ..... | 1 |
| Granger | 909 | 3 | .... | ... | .... | .... | .... | .... | ..... | ..... | ..... |
| Grove | 921 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Hume | 1,942 | 17 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Independence | 1,203 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| New Hudson | 1,028 | 12 | .... | .... | .... | .... | ... | .... | ..... | 1 | ..... |
| Rushford | 1,388 | 10 | ... | .... | .... | .... | .... | .... | 1 | ..... | ..... |
| Scio | 1,373 | 7 | .... | .... | .... | .... | ... | .... | .... | ..... | ..... |
| Ward | 582 | ..... | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| Wellsville | 5,033 | 73 | .... | .... | .... | 2 | .... | .... | 3 | 1 | 3 |
| West Almond | 642 | 6 | .... | .... | ... | .... | .... | .... | ..... | ..... | ..... |
| Willing | 1,284 | 10 | .... | .... | .... | 1 | .... | .... | ..... | ..... | ..... |
| Wirt | 1,157 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Broome County** | **62,793** | | | | | | | | | | |
| BINGHAMTON | 34,514 | 622 | 4 | 16 | .... | 5 | 31 | 5 | 21 | 47 | 67 |
| Barker | 1,133 | 11 | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| Binghamton | 784 | 25 | .... | .... | .... | .... | ..... | .... | ..... | ..... | 2 |
| Chenango | 1,438 | 31 | .... | .... | .... | 1 | .... | .... | ..... | 1 | ..... |
| Colesville | 3,065 | 50 | .... | .... | .... | .... | .... | .... | 3 | ..... | 3 |
| Conklin | 1,033 | 8 | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| Dickinson | 524 | 9 | ... | .... | .... | .... | ... | .... | ... | 1 | 1 |
| Fenton | 1,373 | 17 | .... | .... | .... | .... | ... | 1 | ..... | ..... | 1 |
| Kirkwood | 1,134 | 15 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Lisle | 1,927 | 42 | .... | 2 | .... | .... | ... | .... | ..... | ..... | 3 |
| Maine | 1,649 | 16 | .... | 2 | .... | .... | .... | .... | ..... | ..... | ..... |
| Nanticoke | 698 | 7 | .... | .... | .... | ... | .... | ... | 1 | ..... | ..... |
| Sanford | 3,314 | 28 | ... | .... | .... | .... | 1 | .... | ..... | 1 | 2 |
| Triangle | 1,879 | 18 | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.— (*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Broome County** — (*Continued*). | | | | | | | | | | | |
| Union | 3,172 | 44 | .... | .... | .... | .. | .... | .... | ..... | ..... | 1 |
| Vestal | 2,118 | 30 | .... | .. | .... | ... | .... | .... | ..... | ..... | ..... |
| Windsor | 3,017 | 45 | .... | .... | .... | ... | .... | .... | ..... | 1 | 1 |
| **Cattaraugus County** | **61,774** | | | | | | | | | | |
| OLEAN | 7,358 | 162 | .... | 7 | ... | 21 | ... | .... | 5 | 6 | 12 |
| Allegany | 3,715 | 37 | 2 | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Ashford | 1,665 | 8 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Carrollton | 2,098 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Cold Spring | 917 | 8 | .... | ... | .... | .... | .... | .... | ..... | ..... | 3 |
| Conewango | 1,297 | 5 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Dayton | 1,744 | 13 | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| East Otto | 1,218 | 11 | ... | ... | ... | .... | .... | .... | ..... | ..... | ..... |
| Elko | 492 | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Ellicottville | 1,906 | 27 | .... | 2 | .... | .... | .... | .... | 1 | 1 | ..... |
| Farmersville | 1,029 | 16 | ... | .... | .... | .... | .... | .... | 2 | 1 | ..... |
| Franklinville | 2,368 | 31 | ... | 1 | .... | .... | .... | .... | ..... | ..... | .. ... |
| Freedom | 1,271 | 11 | .... | .... | ... | .... | .... | .... | ..... | ..... | 1 |
| Great Valley | 1,844 | 26 | .. | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Hinsdale | 1,352 | 16 | .... | .... | .... | .... | .... | .... | ... .. | ..... | ..... |
| Humphrey | 845 | 4 | .... | .... | .... | .... | .. | .... | ..... | ..... | 1 |
| Ischua | 808 | 10 | .... | 1 | .... | .... | .... | .... | ..... | ... .. | ..... |
| Leon | 978 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Little Valley | 1,555 | 32 | .... | .... | .... | 1 | 2 | .. | ..... | ... .. | ..... |
| Lyndon | 641 | 9 | .... | ... | .... | ... | .... | .... | ..... | ..... | ..... |
| Machias | 1,653 | 36 | ... | .... | .... | ... | .... | ... | ..... | 1 | 2 |
| Mansfield | 1,001 | 12 | ... | .... | .... | .... | .... | .... | ... .. | ..... | ..... |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Napoli | 988 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| New Albion | 1,867 | 24 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Olean | 4,330 | 22 | .... | 3 | .. | 1 | .... | .... | 1 | 1 | 1 |
| Otto | 1,061 | 19 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Perrysburgh | 1,101 | 12 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Persia | 1,423 | 18 | .... | 1 | .... | 1 | .... | .... | ..... | ..... | ..... |
| Portville | 2,369 | 19 | .... | .. | .... | .... | .... | 1 | .... | 1 | 2 |
| Randolph | 2,397 | 27 | .... | .... | ... | .... | ... | .... | 1 | ... .. | 2 |
| Red House | 1,058 | 9 | .... | .... | .... | ... | .... | ... | ..... | ..... | 2 |
| *Salamanca* | 3,700 | 49 | .... | .. | .... | .... | .... | 4 | 4 | . ... | 2 |
| Salamanca | 1,100 | 30 | ... | .... | ... | .... | .... | .... | 1 | 1 | 2 |
| South Valley | 749 | ..... | .... | .... | .... | ... | ... | .... | ..... | ..... | ..... |
| Yorkshire | 1,848 | 28 | .... | .... | .... | .... | .. | .... | ..... | 1 | ..... |
| **Cayuga County** | **62,816** | | | | | | | | | | |
| AUBURN | 24,737 | 508 | 3 | 2 | 2 | 9 | 1 | .... | 70 | 29 | 77 |
| Aurelius | 1,564 | 26 | ... | .... | .... | 1 | .... | .... | 2 | 1 | 3 |
| Brutus | 2,810 | 46 | .... | .... | .... | .. . | ... | .... | ..... | 3 | 5 |
| Cato | 1,930 | 27 | .... | 1 | .... | .... | .... | .... | . .... | ..... | 2 |
| Conquest | 1,510 | 22 | .... | 1 | .... | ... | ... | .... | ..... | 1 | 2 |
| Fleming | 1,044 | 16 | .... | .... | .... | .... | .... | ... | ..... | ..... | 1 |
| Genoa | 2,241 | 32 | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 |
| Ira | 1,842 | 16 | .... | .... | .... | .... | .... | . .. | ..... | ..... | 1 |
| Ledyard | 1,859 | 18 | .... | .... | ... | .... | .... | ... | ... .. | ..... | 1 |
| Locke | 1,005 | 10 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Montezuma | 994 | 22 | .... | .... | .... | .... | .... | .... | ..... | 1 | 3 |
| Moravia | 2,502 | 38 | .... | .... | .... | .... | .... | .... | 2 | ..... | 3 |
| Mentz | 2,083 | 32 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 3 |
| Niles | 1,533 | 24 | .... | 2 | .... | .... | ... | .... | 1 | 1 | ..... |
| Owasco | 1,143 | 18 | .... | ... | .... | .. . | ... | .... | ..... | ..... | ..... |
| Scipio | 1,785 | 29 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Sempronius | 964 | 15 | .... | .... | .... | .... | .... | .... | .... . | ..... | 3 |
| Sennett | 1,310 | 23 | .. | .... | ... | .... | .... | .... | ..... | ..... | 5 |
| Springport | 1,905 | 31 | .... | ... | .... | .... | .... | .... | ..... | ..... | 1 |
| Sterling | 2,845 | 32 | . . | .... | .... | .... | ... | ... | ..... | ..... | ..... |
| Summer Hill | 814 | 16 | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC. — (*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cayuga County** — (*Continued*): | | | | | | | | | | | |
| Throop | 974 | 15 | .... | ... | .... | .... | .... | .... | .... .. | ..... | 2 |
| Venice | 1,616 | 11 | .... | .... | .... | .... | .... | .... | ..... | .... .. | ..... |
| Victory | 1,682 | 22 | .... | ... | .... | 1 | .... | .... | ..... | .... .. | 2 |
| **Chautauqua County** | 78,900 | | | | | | | | | | |
| DUNKIRK | 10,040 | 61 | .... | 4 | 1 | .... | .... | .... | 12 | 1 | 2 |
| JAMESTOWN | 18,627 | 395 | 7 | 10 | 2 | .... | .... | 10 | 109 | 15 | 34 |
| Arkwright | 928 | 15 | ... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Busti | 2,012 | 29 | .... | 1 | .... | .... | .... | ... | 7 | 2 | 2 |
| Carroll | 1,790 | 22 | .... | .... | 1 | .... | .... | .... | ..... | ..... | ..... |
| Charlotte | 1,384 | 50 | .... | .... | .... | .... | .... | ... | 1 | 1 | 2 |
| Chautauqua | 3,133 | 48 | .... | 1 | .... | .... | .... | .... | 1 | .. ... | 5 |
| Cherry Creek | 1,400 | 20 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Clymer | 1,447 | 4 | .... | .... | .... | .... | .... | .... | .... | ..... | .... .. |
| Dunkirk | ..... | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Ellery | 1,624 | 21 | .... | .. . | .... | .... | .... | .... | 3 | ..... | 1 |
| Ellicott | 1,855 | 16 | ... | 1 | .... | .... | ... | .... | 4 | ..... | .... .. |
| Ellington | 1,390 | 22 | .... | ... | .... | .... | .... | .... | ..... | ..... | 1 |
| French Creek | 1,077 | 3 | .... | .... | .... | .... | .... | .... | ..... | .... . | ..... |
| Gerry | 1,088 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Hanover | 4,888 | 71 | .... | .... | ... | .... | ... | .... | ..... | 3 | 7 |
| Harmony | 3,120 | 24 | .... | .... | .... | .... | .... | .... | ..... | 1 | 4 |
| Kiantone | 490 | 18 | .... | 1 | .... | .... | . .. | .... | 4 | ..... | ..... |
| Mina | 1,1?3 | 12 | .... | .... | .... | ... | .... | .... | ..... | ..... | 1 |
| Poland | 1,639 | 15 | .... | ... | .... | .... | .... | .... | ..... | ..... | 1 |
| Pomfret | 2,200 | 29 | 1 | .... | .... | 1 | .... | ... | ..... | 2 | ..... |
| *Fredonia* | 3,400 | 64 | .... | .... | .... | | | | 5 | 4 | 4 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Napoli | 988 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| New Albion | 1,867 | 24 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Olean | 4,330 | 22 | .... | 3 | .... | 1 | .... | .... | 1 | 1 | 1 |
| Otto | 1,061 | 19 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Perrysburgh | 1,101 | 12 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Persia | 1,428 | 18 | .... | 1 | .... | 1 | .... | .... | ..... | ..... | ..... |
| Portville | 2,369 | 19 | .... | .... | .... | .... | .... | 1 | .... | 1 | 2 |
| Randolph | 2,397 | 27 | .... | .... | .... | .... | .... | .... | 1 | .... | 2 |
| Red House | 1,058 | 9 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| *Salamanca* | 3,700 | 49 | .... | .... | .... | .... | .... | 4 | 4 | .... | 2 |
| Salamanca | 1,100 | 30 | .... | .... | .... | .... | .... | .... | 1 | 1 | 2 |
| South Valley | 749 | ..... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Yorkshire | 1,848 | 28 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| **Cayuga County** | **62,816** | | | | | | | | | | |
| AUBURN | 24,737 | 508 | 3 | 2 | 2 | 9 | 1 | .... | 70 | 29 | 77 |
| Aurelius | 1,564 | 26 | .... | .... | .... | 1 | .... | .... | 2 | 1 | 3 |
| Brutus | 2,810 | 46 | .... | .... | .... | .... | .... | .... | ..... | 3 | 5 |
| Cato | 1,930 | 27 | .... | 1 | .... | .... | .... | .... | .... | ..... | 2 |
| Conquest | 1,510 | 22 | .... | 1 | .... | .... | .... | .... | ..... | 1 | 2 |
| Fleming | 1,044 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Genoa | 2,241 | 32 | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 |
| Ira | 1,892 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Ledyard | 1,859 | 18 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Locke | 1,005 | 10 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Montezuma | 994 | 22 | .... | .... | .... | .... | .... | .... | ..... | 1 | 3 |
| Moravia | 2,502 | 38 | .... | .... | .... | .... | .... | .... | 2 | ..... | 3 |
| Mentz | 2,083 | 32 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 3 |
| Niles | 1,533 | 24 | .... | 2 | .... | .... | .... | .... | 1 | 1 | ..... |
| Owasco | 1,143 | 18 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Scipio | 1,785 | 29 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Sempronius | 964 | 15 | .... | .... | .... | .... | .... | .... | .... | ..... | 3 |
| Sennett | 1,310 | 23 | .... | .... | .... | .... | .... | .... | ..... | ..... | 5 |
| Springport | 1,905 | 31 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Sterling | 2,845 | 32 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Summer Hill | 814 | 16 | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.— (*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Chenango County**—(*Continued*). | | | | | | | | | | | |
| Otselic | 1,243 | 0 | .... | .... | .... | .. | ... | ... | ..... | ..... | ..... |
| Oxford | 3,172 | 65 | .... | .... | ... | 1 | 1 | ... | 1 | ..... | ..... |
| Pharsalia | 972 | 9 | .. .. | ... | .... | .... | ... | .... | ..... | ..... | 1 |
| Pitcher | 886 | 6 | .... | .... | .... | ... | .... | .... | ..... | ..... | ... ... |
| Preston | 688 | 17 | .... | .... | .... | ... | .... | .... | ..... | ..... | 1 |
| Plymouth | 1,118 | 0 | .... | .... | .... | .... | .... | ... | ..... | . .... | ..... |
| Sherburne | 2,911 | 33 | ... | .... | .... | 1 | .... | .... | ..... | ..... | 2 |
| Smithville | 1,230 | 15 | .... | . .. | ... | .... | .... | .... | ..... | ..... | ..... |
| Smyrna | 1,356 | 25 | .... | .... | .... | .... | ... | .... | ..... | ..... | 2 |
| **Clinton County** | 46,601 | | | | | | | | | | |
| Altona | 2,250 | 11 | .... | .... | .... | .... | .... | .... | .. .. | ..... | 1 |
| Ausable | 2,688 | 17 | .... | 1 | .... | .... | .... | .... | ..... | ... . | 1 |
| Beekmantown | 2,135 | 41 | 1 | ... | .... | .... | .... | .... | 9 | ... .. | 3 |
| Black Brook | 1,971 | 17 | .... | ... | . . | .... | ... | .... | ..... | ..... | 1 |
| Champlain | 5,069 | 65 | .... | 1 | .... | .... | .... | .... | 13 | 4 | 6 |
| Chazy | 2,981 | 26 | ... | ... | .. . | .... | .... | .... | ..... | 3 | 2 |
| Clinton | 1,831 | 10 | .... | ... | ... | .... | .... | .... | ... .. | ..... | ..... |
| Dannemora | 3,094 | 18 | .... | ... | .... | .. | .... | .... | .... . | ..... | 2 |
| Ellenburgh | 3,311 | 25 | .... | . .. | .... | .... | .... | 1 | 2 | ..... | 1 |
| Mooers | 3,629 | 25 | .... | .... | ... | ... | .... | ... | ..... | ..... | 1 |
| Plattsburgh | 3,000 | 26 | .... | .... | ... | .... | .... | 1 | 2 | 1 | 4 |
| *Plattsburgh* | 7,010 | 125 | 2 | 1 | .... | .... | .... | 2 | 13 | 16 | 12 |
| Peru | 2,313 | 38 | .... | .... | ... | .... | .... | .... | 1 | ..... | 1 |
| Saranac | 3,725 | 34 | .... | .... | .... | .... | .... | .... | ..... | 1 | 3 |
| Schuyler Falls | 1,562 | 4 | ... | .... | .... | ... | .... | .... | ..... | ..... | ..... |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Columbia County** | **45,205** | | | | | | | | | | |
| HUDSON | 9,633 | 199 | 1 | 2 | 1 | 1 | .... | .... | 7 | 11 | 21 |
| Ancram | 1,408 | 22 | .... | ... | .... | ... | .... | .... | 1 | 1 | ..... |
| Austerlitz | 1,119 | 18 | ... | ... | .... | .... | .... | .... | . .... | 1 | ..... |
| Canaan | 1,562 | 23 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Chatham | 3,880 | 76 | .... | 1 | ... | 1 | ... | 1 | ..... | ..... | 5 |
| Claverack | 4,681 | 65 | .... | 3 | .... | .... | .... | ... | 3 | 4 | 2 |
| Clermont | 803 | 11 | .... | .... | .... | .... | .... | ... | 2 | ..... | 1 |
| Copake | 1,506 | 9 | .... | .... | .... | ... | .... | .. . | ..... | ..... | 1 |
| Gallatin | 1,028 | 11 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Germantown | 1,689 | 25 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 1 |
| Ghent | 2,654 | 57 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 2 |
| Greenport | 1,224 | 17 | .... | .... | ... | .... | .... | .... | ..... | ..... | 1 |
| Hillsdale | 1,495 | 11 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Kinderhook | 3,468 | 82 | .... | .... | .... | .... | .... | .... | 1 | ..... | 4 |
| Livingston | 1,795 | 25 | .... | .... | .... | .... | .... | .... | ..... | ..... | .... .. |
| New Lebanon | 1,872 | 28 | .... | .... | .... | 1 | .... | .... | .. .. | ..... | 1 |
| Stockport | 2,226 | 32 | .... | .... | ... | ... | .... | .... | 2 | ..... | 4 |
| Stuyvesant | 2,110 | 56 | .... | 1 | .... | .... | .. . | .... | 2 | 2 | 3 |
| Taghkanic | 1,076 | 7 | .... | .... | .... | .... | .... | ... | ..... | ..... | 2 |
| **Cortland County** | **28,271** | | | | | | | | | | |
| Cincinnatus | 900 | 9 | .... | .... | .... | ... | .... | .... | ..... | ..... | ..... |
| Cortlandville | 3,143 | 57 | .... | 1 | .... | .... | .... | .... | 2 | ..... | 4 |
| *Cortland* | 8,590 | 118 | .... | 2 | 1 | ... | .... | .... | 10 | 4 | 13 |
| Cuyler | 1,185 | 19 | .... | .... | ... | ... | ... | .... | ..... | ..... | 3 |
| Freetown | 621 | 13 | .... | .... | .... | .... | 1 | .... | ..... | .. ... | ..... |
| Harford | 857 | 7 | .... | ... | .... | ... | .... | .... | ..... | ..... | ..... |
| Homer | 1,019 | 19 | .... | .... | .... | ... | ... | .... | ..... | ..... | .... . |
| *Homer* | 3,000 | 39 | .... | 3 | .... | .... | .... | .... | 5 | ..... | 3 |
| Lapeer | 554 | 6 | .... | .... | .... | .... | ... | .... | ..... | ..... | ..... |
| Marathon | 1,753 | 25 | ... | ... | 1 | ... | .... | ... | ..... | ..... | ..... |
| Preble | 854 | 13 | .... | .... | ... | .... | ... | .... | ..... | ..... | 1 |
| Scott | 872 | 23 | .. | .. . | .... | .... | .... | .... | ..... | ..... | 2 |
| Solon | 646 | 5 | .. | .... | .... | .... | ... | .... | .. ... | ..... | 1 |
| Taylor | 806 | 9 | .. | .. . | .... | ... | .... | .... | 1 | ..... | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC. — (*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cortland County** — (*Continued*). | | | | | | | | | | | |
| Truxton | 1,265 | 16 | .... | .... | .... | .... | ... | .... | ..... | 2 | 1 |
| Virgil | 1,430 | 25 | .... | 1 | .... | ... | .... | .. | ..... | ..... | .... .. |
| Willett | 768 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Delaware County** | **45,488** | | | | | | | | | | |
| Andes | 2,183 | 30 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 1 |
| Bovina | 927 | 0 | .... | .... | .... | .... | .... | .... | ..... | ..... | . ... |
| Colchester | 2,992 | 20 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Davenport | 1,824 | 25 | ... | .... | .... | .... | .... | .... | . .... | ..... | 1 |
| Delhi | 2,793 | 53 | 1 | .... | 1 | .... | ... | 1 | 1 | 1 | 2 |
| Deposit | 1,683 | 29 | .... | .... | .... | .... | 1 | ... | ..... | ..... | 3 |
| Franklin | 2,638 | 57 | .... | 1 | .... | .... | ... | .... | ..... | ..... | 1 |
| Hamden | 1,455 | 21 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Hancock | 4,593 | 38 | .... | .... | .... | .... | .... | .... | 7 | 2 | 1 |
| Harpersfield | 1,336 | 7 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Kortright | 1,585 | 18 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Masonville | 1,464 | 20 | .... | .... | .... | ... | .... | ... | ..... | 2 | 2 |
| Meredith | 1,529 | 36 | 1 | .... | .... | ... | .... | .... | ..... | ..... | ..... |
| Middletown | 3,503 | 51 | .... | 3 | .... | .... | ... | 1 | 5 | ..... | 5 |
| Roxbury | 2,248 | 42 | .... | 2 | .... | .... | .... | .... | 1 | 1 | 1 |
| Sidney | 3,320 | 59 | .... | .... | .... | .... | .... | .... | 5 | ..... | 6 |
| Stamford | 1,902 | 51 | .. | .... | ... | .... | .... | .... | 1 | ..... | 1 |
| Tompkins | 2,727 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Walton | 4,811 | 82 | .... | 4 | 1 | .. | .... | 1 | ..... | 6 | 2 |
| **Dutchess County** | **78,342** | ..... | .... | .... | .... | .... | .... | ... | ..... | ... | ..... |
| POUGHKEEPSIE | 23,196 | 541 | 1 | 21 | 10 | 19 | 2 | 1 | 13 | 34 | 55 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Amenia | 2,504 | 40 | .... | .... | .... | .... | 1 | .... | 1 | ..... | 3 |
| Beekman | 1,109 | 15 | ... | .... | .... | ... | .... | .... | ..... | ..... | 2 |
| Clinton | 1,449 | 28 | .... | 1 | .... | 2 | .... | ... | ..... | ..... | 2 |
| Dover | 1,768 | 27 | .... | .... | ... | .... | .... | 1 | ..... | 1 | 1 |
| East Fishkill | 2,323 | 24 | ... | .... | .... | .... | .... | .. . | ..... | 1 | 2 |
| Fishkill | 8,100 | 143 | .... | 2 | 1 | .... | .... | .... | 7 | 5 | 20 |
| *Fishkill* | 3,617 | 72 | .... | .... | .... | ... | .... | .... | ..... | 9 | 4 |
| Hyde Park | 2,808 | 41 | .... | 1 | .... | 2 | ... | .... | 2 | .. ... | 5 |
| La Grange | 1,463 | 19 | .... | .... | .... | .... | .... | .... | ..... | 2 | ..... |
| Milan | 1,062 | 16 | 1 | ... | .... | .... | .... | .... | ..... | ..... | ..... |
| North East | 2,158 | 45 | ... | 2 | .... | .... | ... | .... | ..... | 1 | ..... |
| Pawling | 1,917 | 35 | .. | ... | .... | .... | .... | 1 | 1 | ... .. | ..... |
| Pine Plains | 1,439 | 28 | ... | .... | .... | ... | .... | .... | ..... | ..... | 3 |
| Pleasant Valley | 1,554 | 23 | ... | .... | .... | ... | .. | .... | ..... | ..... | 3 |
| Poughkeepsie | 8,807 | 53 | .... | .... | .... | 1 | .... | 1 | ..... | 1 | 3 |
| Red Hook | 4,072 | 85 | ... | .... | .... | .... | .... | .... | 13 | 1 | 4 |
| Rhinebeck | 3,344 | 61 | . .. | 2 | .... | 1 | .... | .... | 1 | 1 | 1 |
| Stanford | 1,779 | 18 | .... | .... | .... | .... | ... | .... | ..... | ..... | 1 |
| Union Vale | 1,008 | 20 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Wappingers | 1,941 | 25 | .... | .... | .... | .... | ... | .... | ..... | 1 | 2 |
| *Wappingers Falls* | 3,718 | 76 | .... | 3 | 4 | 1 | .... | .... | 3 | 2 | 17 |
| Washington | 2,651 | 57 | .... | .... | .... | .... | .... | .... | ..... | 3 | 6 |
| **Erie County** | **369,528** | | | | | | | | | | |
| BUFFALO | 300,000 | 5,711 | 41 | 112 | 7 | 133 | 18 | 52 | 227 | 812 | 477 |
| *Tonawanda* | 7,145 | 122 | .... | 2 | 1 | .... | 1 | 1 | 14 | 13 | 6 |
| Alden | 2,377 | 45 | .. | .... | .... | .... | .... | .... | 1 | 3 | 2 |
| Amherst | 3,960 | 45 | .... | 1 | .... | 1 | .... | .... | ..... | 4 | 8 |
| Aurora | 3,371 | 42 | .... | 1 | .... | 1 | .... | ... | ..... | 1 | 1 |
| Boston | 1,247 | 19 | .... | .... | .... | .... | .... | .... | 4 | ... .. | 1 |
| Brant | 1,387 | 29 | .... | 1 | .... | .... | .... | .... | .. ... | 4 | ..... |
| Cheektowaga | 3,250 | 54 | .... | .... | .... | 1 | .... | .... | 2 | 4 | 3 |
| Clarence | 3,151 | 34 | .... | 1 | .... | .... | .... | .... | 1 | 1 | 1 |
| Colden | 1,384 | 28 | .... | .... | .... | .... | .... | .... | ..... | 1 | . .... |
| Collins | 2,203 | 24 | .... | 3 | .... | ... | .... | .... | ..... | ..... | 2 |
| Concord | 4,067 | 45 | .... | .... | .... | .... | ... | .... | ..... | 2 | ..... |
| Eden | 2,206 | 29 | .... | 1 | .... | 2 | .... | .... | 1 | 1 | 4 |
| Elma | 2,159 | 20 | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC. — (*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cortland County** — (*Continued*). | | | | | | | | | | | |
| Truxton | 1,265 | 16 | .... | .... | .... | .... | ... | .... | ..... | 2 | 1 |
| Virgil | 1,430 | 25 | .... | 1 | .... | ... | .... | .. | ..... | ..... | .... .. |
| Willett | 768 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Delaware County** | **45,488** | | | | | | | | | | |
| Andes | 2,183 | 30 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 1 |
| Bovina | 927 | 0 | .... | .... | .... | .... | .... | .... | ..... | ..... | . ... |
| Colchester | 2,992 | 20 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Davenport | 1,824 | 25 | ... | .... | .... | .... | .... | .... | . .... | ..... | 1 |
| Delhi | 2,793 | 53 | 1 | .... | 1 | .... | ... | 1 | 1 | 1 | 2 |
| Deposit | 1,683 | 29 | .... | .... | .... | .... | 1 | ... | ..... | ..... | 3 |
| Franklin | 2,638 | 57 | .... | 1 | .... | .... | ... | .... | ..... | ..... | 1 |
| Hamden | 1,455 | 21 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Hancock | 4,593 | 38 | .... | .... | .... | .... | .... | .... | 7 | 2 | 1 |
| Harpersfield | 1,336 | 7 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Kortright | 1,585 | 18 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Masonville | 1,464 | 20 | .... | .... | .... | ... | .... | .... | ..... | 2 | 2 |
| Meredith | 1,529 | 36 | 1 | .... | ... | ... | .... | .... | ..... | ..... | ..... |
| Middletown | 3,503 | 51 | .... | 3 | .... | .... | ... | 1 | 5 | ..... | 5 |
| Roxbury | 2,248 | 42 | .... | 2 | .... | .... | .... | .... | 1 | 1 | 1 |
| Sidney | 3,320 | 59 | .... | .... | .... | .... | .... | .... | 5 | ..... | 6 |
| Stamford | 1,902 | 51 | .. | .... | ... | .... | .... | .... | 1 | ..... | 1 |
| Tompkins | 2,727 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Walton | 4,811 | 82 | .... | 4 | 1 | .. | .... | 1 | ..... | 6 | 2 |
| **Dutchess County** | **78,342** | ..... | .... | .... | .... | .... | .... | ... | ..... | ... | ..... |
| POUGHKEEPSIE | 23,196 | 541 | 1 | 21 | 10 | 19 | 2 | 1 | 13 | 34 | 55 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ticonderoga | 4,267 | 31 | .... | .... | .... | .... | .... | .... | 5 | ..... | 1 |
| Westport | 1,827 | 21 | .... | .... | .... | .... | .... | ... | 1 | ..... | 2 |
| Willsborough | 1,642 | 23 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Wilmington | 668 | 5 | .... | .... | .... | .... | 1 | .... | ..... | ..... | ..... |
| **Franklin County** | **39,817** | | | | | | | | | | |
| Altamont | 1,051 | 23 | .... | 2 | .... | .... | .... | .... | 1 | 2 | 2 |
| Bangor | 2,351 | 35 | .... | .... | .... | .... | .... | .... | ..... | ... | 4 |
| Bellmont | 2,663 | 18 | .... | 2 | .... | .... | .... | .... | ..... | 1 | ..... |
| Bombay | 1,467 | 48 | 1 | .... | .... | .... | .... | 2 | ..... | 3 | 6 |
| Brandon | 896 | 14 | .... | .... | .... | 1 | .... | .... | 1 | ..... | 1 |
| Brighton | 412 | 10 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Burke | 2,113 | 23 | .... | .... | .... | .... | .... | .... | ..... | ..... | 4 |
| Chateaugay | 2,777 | 34 | .... | .... | .... | .... | .... | 1 | ..... | ..... | 4 |
| Constable | 1,524 | 22 | .... | .... | .... | .... | .... | 1 | ..... | ..... | 2 |
| Dickinson | 1,689 | 9 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Duane | 333 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Fort Covington | 2,287 | 45 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Franklin | 1,633 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Harrietstown | 1,815 | 31 | .... | .... | .... | .... | .... | .... | 2 | 3 | 16 |
| Malone | 4,264 | 68 | .... | .... | .... | .... | .... | 1 | ..... | 3 | ..... |
| *Malone* | 5,000 | 96 | .... | 2 | .... | .... | .... | .... | 8 | 5 | 7 |
| Moira | 2,364 | 26 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Santa Clara | 2,022 | 16 | .... | 1 | .... | 2 | .... | .... | ..... | ..... | 1 |
| Waverly | 1,750 | 37 | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 |
| Westville | 1,356 | 14 | .... | 2 | .... | .... | .... | .... | ..... | ..... | 2 |
| **Fulton County** | **38,478** | | | | | | | | | | |
| GLOVERSVILLE | 14,694 | 230 | .... | 3 | .... | 3 | 3 | .... | 2 | 19 | 25 |
| Bleecker | 804 | 14 | .... | 1 | .... | .... | .... | .... | ..... | 2 | ..... |
| Broadalbin | 1,930 | 30 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Caroga | 526 | 7 | .... | .... | .... | 1 | .... | .... | ..... | 1 | ..... |
| Ephratah | 1,772 | 22 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Johnstown | 3,364 | 31 | .... | .... | .... | .... | .... | .... | ..... | 1 | 2 |
| *Johnstown* | 7,768 | 126 | .... | 5 | .... | 2 | 1 | 1 | 9 | 8 | 13 |
| Mayfield | 2,266 | 33 | .... | .... | .... | .... | .... | .... | ..... | .... | ..... |
| Northampton | 2,273 | 23 | .... | .... | .... | .... | .... | .... | 1 | ..... | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.—(*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Erie County**—(*Continued*). | | | | | | | | | | | |
| Evans | 2,599 | 40 | .... | .... | ... | .... | .... | .... | 1 | 6 | 1 |
| East Hamburgh | 2,351 | 33 | .... | .... | .... | 1 | .... | 1 | ..... | 1 | 2 |
| Grand Island | 1,022 | 22 | .... | .... | .... | .... | .... | .... | 1 | ..... | 1 |
| Hamburgh | 3,915 | 68 | .... | .... | .... | 7 | .... | .... | 3 | 2 | 6 |
| Holland | 1,706 | 23 | .... | 1 | .... | .... | ... | .... | 1 | ..... | 1 |
| Lancaster | 4,172 | 81 | .... | 2 | .... | .... | .... | .... | 1 | 11 | 4 |
| Marilla | 1,502 | 22 | ... | .... | .... | .... | .... | .... | 1 | ..... | ..... |
| Newstead | 3,689 | 40 | .... | .... | 1 | .... | .... | .... | ..... | ..... | 1 |
| North Collins | 2,010 | 21 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Sardinia | 1,663 | 28 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Wales | 1,229 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| West Seneca | 3,374 | 44 | .... | .... | .... | 1 | .... | .... | 1 | ..... | 1 |
| **Essex County** | **33,110** | | | | | | | | | | |
| Chesterfield | 2,482 | 63 | .... | 2 | .... | .... | .... | 2 | ..... | 1 | 3 |
| Crown Point | 2,848 | 19 | .... | .... | .... | .... | .... | .... | ..... | 1 | 2 |
| Elizabethtown | 1,261 | 21 | .... | 1 | .... | ... | ... | .... | ..... | ..... | 4 |
| Essex | 1,435 | 22 | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| Jay | 1,762 | 35 | .. | 1 | .... | .... | .... | .... | ..... | ..... | 3 |
| Keene | 1,205 | 12 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Lewis | 1,248 | 7 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Moriah | 6,977 | 93 | .... | 1 | .... | .... | ... | 2 | 12 | ..... | 8 |
| Minerva | 1,059 | 15 | .... | .... | .... | .... | .... | .... | ..... | ..... | 4 |
| Newcomb | 418 | 9 | ... | .... | .. | .... | .... | .... | ..... | ..... | 2 |
| North Elba | 1,216 | 20 | .... | .... | .... | ... | .... | .... | ..... | ..... | 2 |
| North Hudson | 650 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Schroon | 1,455 | 25 | .... | .... | .... | .... | .... | .... | 2 | ..... | 5 |
| St. Armand | 651 | 10 | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ticonderoga | 4,267 | 31 | .... | .... | .... | .... | .... | .... | 5 | ..... | 1 |
| Westport | 1,827 | 21 | .... | .... | .... | .... | .... | ... | 1 | ..... | 2 |
| Willsborough | 1,642 | 28 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Wilmington | 668 | 5 | .... | .... | .... | .... | 1 | .... | ..... | ..... | ..... |
| **Franklin County** | **39,817** | | | | | | | | | | |
| Altamont | 1,051 | 23 | .... | 2 | .... | .... | .... | .... | 1 | 2 | 2 |
| Bangor | 2,351 | 35 | .... | .... | .... | .... | .... | .... | ..... | ... | 4 |
| Bellmont | 2,663 | 18 | . | 2 | .... | .... | .... | .... | ..... | 1 | ..... |
| Bombay | 1,467 | 48 | 1 | ... | .... | .... | .... | 2 | ..... | 3 | 6 |
| Brandon | 396 | 14 | .... | .... | .... | 1 | .... | .... | 1 | ..... | 1 |
| Brighton | 412 | 10 | .... | ... | .... | .... | .... | .... | ..... | ..... | ..... |
| Burke | 2,113 | 28 | ... | .... | .... | .... | .... | .... | ..... | ..... | 4 |
| Chateaugay | 2,777 | 34 | .... | ... | .... | .... | .... | 1 | ..... | ..... | 4 |
| Constable | 1,524 | 22 | .... | .... | .... | .... | .... | 1 | ..... | ..... | 2 |
| Dickinson | 1,689 | 9 | .... | .... | .... | .... | .... | ... | ..... | 1 | 1 |
| Duane | 333 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Fort Covington | 2,287 | 45 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Franklin | 1,633 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Harrietstown | 1,815 | 31 | .... | .... | .... | .... | .... | .... | 2 | 3 | 16 |
| Malone | 4,264 | 68 | ... | ... | .... | .... | .... | 1 | ..... | 3 | ..... |
| *Malone* | 5,000 | 96 | .... | 2 | .... | .... | .... | .... | 8 | 5 | 7 |
| Moira | 2,364 | 26 | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Santa Clara | 2,022 | 16 | .... | 1 | .... | 2 | .... | .... | ..... | ..... | 1 |
| Waverly | 1,750 | 37 | .... | .... | .... | ... | .... | .... | 1 | 2 | 1 |
| Westville | 1,356 | 14 | .... | 2 | .... | .... | .... | .... | ..... | ..... | 2 |
| **Fulton County** | **38,478** | | | | | | | | | | |
| GLOVERSVILLE | 14,694 | 230 | .... | 3 | .... | 3 | 3 | .... | 2 | 19 | 25 |
| Bleecker | 804 | 14 | .... | 1 | ... | .... | .... | .... | ..... | 2 | ..... |
| Broadalbin | 1,930 | 30 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Caroga | 526 | 7 | .... | .. | .. | 1 | .... | .... | ..... | 1 | ..... |
| Ephratah | 1,772 | 22 | .... | .. | ... | ... | .... | .... | ..... | ..... | 1 |
| Johnstown | 3,364 | 81 | .... | ... | .... | .. | .... | .... | ..... | 1 | 2 |
| *Johnstown* | 7,768 | 126 | .... | 5 | .... | 2 | 1 | 1 | 9 | 8 | 13 |
| Mayfield | 2,266 | 33 | .... | .. | ... | .... | .... | .... | ..... | .... | ..... |
| Northampton | 2,273 | 23 | .... | .... | .... | .... | .... | .... | 1 | ..... | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.—(*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fulton County**—(*Continued*). | | | | | | | | | | | |
| Oppenheim | 1,419 | 5 | .... | ... | .... | .... | .... | .... | ..... | ..... | 1 |
| Perth | 688 | 14 | .... | .... | ... | ... | .... | .... | ..... | ..... | ..... |
| Stratford | 959 | 2 | .... | .... | .... | .... | .... | .... | ..... | .... | 1 |
| **Genesee County** | **33,486** | | | | | | | | | | |
| Alabama | 1,679 | 21 | ... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Alexander | 1,572 | 27 | .... | .... | 1 | ... | .... | ... | 1 | 1 | 3 |
| Batavia | 2,597 | 22 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| *Batavia* | 7,221 | 109 | 1 | 6 | ... | .... | .... | 1 | 2 | 5 | 7 |
| Bergen | 1,958 | 29 | ... | .... | .... | ... | ... | .... | ..... | 2 | 1 |
| Byron | 1,554 | 17 | .... | .... | .... | .. | .... | .... | ..... | ..... | ..... |
| Bethany | 1,405 | 24 | .... | .... | .... | ... | .... | .... | ..... | 1 | ..... |
| Darien | 1,928 | 27 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Elba | 1,665 | 19 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Le Roy | 1,782 | 24 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 2 |
| *Le Roy* | 3,000 | 47 | ... | .... | .... | .... | .... | .... | ..... | 1 | 5 |
| Oakfield | 1,427 | 20 | .. | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| Pavilion | 1,030 | 17 | .... | .... | .... | ... | .... | .... | ..... | ..... | ..... |
| Pembroke | 2,547 | 49 | .... | .... | .... | .... | ... | .... | 2 | 4 | 3 |
| Stafford | 1,450 | 16 | .... | ... | .... | .... | .... | 1 | ..... | 1 | 2 |
| **Greene County** | **31,141** | | | | | | | | | | |
| Ashland | 804 | 7 | .... | .... | ... | .... | .... | .... | ..... | ... .. | ..... |
| Athens | 2,844 | 45 | ... | 1 | .... | 1 | 2 | .... | 3 | 3 | 3 |
| Cairo | 2,108 | 56 | .... | 1 | .... | .... | .... | .... | 4 | ..... | 2 |
| Catskill | 3,385 | 44 | ... | ... | .... | .... | .... | .... | ..... | ..... | 1 |
| *Catskill* | 4,920 | 86 | 2 | 2 | .... | .... | .... | .... | 14 | 5 | 2 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Wilna | 4,510 | 59 | .... | 1 | .... | .... | . . | 1 | 3 | 5 | 3 |
| Worth | 933 | 5 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Kings County** | **1,016,500** | | | | | | | | | | |
| BROOKLYN | 978,394 | 21,017 | 127 | 175 | 139 | 362 | 126 | 258 | 866 | 1,845 | 2,169 |
| Flatbush | 12,625 | 1,330 | .... | 13 | .... | 5 | 4 | 8 | 22 | 16 | 225 |
| Flatlands | 4,284 | 65 | .... | 1 | .... | .... | .... | .... | 12 | 1 | 5 |
| Gravesend | 8,418 | 163 | 1 | .... | 2 | 1 | .... | 4 | 8 | 43 | 12 |
| New Utrecht | 9,129 | 227 | 4 | 1 | 1 | .... | .... | 5 | 5 | 31 | 24 |
| **Lewis County** | **30,248** | | | | | | | | | | |
| Croghan | 3,800 | 25 | 1 | .. | .... | .... | .... | .... | ..... | 1 | 1 |
| Denmark | 2,127 | 24 | 1 | .. . | ... | .... | .... | .... | ..... | ..... | 1 |
| Diana | 2,506 | 4 | .... | 1 | .... | .... | .... | .... | ..... | .. .. | ..... |
| Greig | 1,411 | 20 | .... | .... | .... | .... | .... | .... | . .... | ..... | ..... |
| Harrisburgh | 781 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| High Market | 670 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Lewis | 1,087 | 15 | .... | .... | .... | .... | .... | .... | ... .. | 1 | ..... |
| Leyden | 1,640 | 18 | ... | .... | .... | .... | .... | .... | ... .. | ..... | 1 |
| Lowville | 3,954 | 69 | .... | .... | .... | ... | .... | 1 | 3 | ..... | 6 |
| Lyonsdale | 1,422 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Martinsburgh | 1,932 | 23 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Montague | 923 | 16 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| New Bremen | 2,112 | 35 | .... | .... | .... | .... | .... | .... | 2 | ..... | 1 |
| Osceola | 569 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Pinckney | 998 | 10 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Turin | 1,242 | 18 | .... | .... | .... | .... | .... | .... | 1 | ..... | 3 |
| Watson | 1,365 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| West Turin | 1,792 | 24 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Livingston County** | **37,010** | | | | | | | | | | |
| Avon | 3,031 | 38 | .... | 1 | .... | .... | .... | .... | ..... | 1 | 1 |
| Caledonia | 2,070 | 27 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 1 |
| Conesus | 1,180 | 9 | .... | ... | .... | .... | .... | . .. | ..... | ... .. | ... ... |
| Geneseo | 3,245 | 18 | .... | .... | .... | .... | .... | 1 | ..... | ... .. | 1 |
| Groveland | 1,233 | 7 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Leicester | 1,638 | 11 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Lima | 2,333 | 27 | ... | .... | .... | .... | .... | .... | ..... | ..... | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC. (*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial disease. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Herkimer County — (*Continued*).** | | | | | | | | | | | |
| Stark | 1,193 | 10 | .... | .... | ... | ... | .... | .... | .. .. | ..... | 1 |
| Warren | 1,305 | 16 | .... | .... | ... | .... | 1 | ... | 2 | ..... | 1 |
| Wilmurt | 714 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | .. .... |
| Winfield | 1,602 | 25 | .... | .... | .... | .... | .... | ... | ..... | ..... | 1 |
| **Jefferson County** | **70,358** | | | | | | | | | | |
| WATERTOWN | 16,082 | 336 | 1 | 9 | .... | 4 | .... | 9 | 28 | 15 | 30 |
| Adams | 3,191 | 50 | ... | ... | .... | 1 | .... | .... | 1 | ..... | 2 |
| Alexandria | 3,605 | 44 | .... | .... | .... | .... | ... | ... | ..... | 1 | ..... |
| Antwerp | 2,908 | 33 | .... | .... | .... | .... | 1 | .. | 1 | ..... | 2 |
| Brownville | 3,151 | 59 | .... | 1 | .... | 1 | .... | . .. | 2 | ..... | 2 |
| Cape Vincent | 3,000 | 40 | .... | .... | .... | .... | .... | .... | 1 | ..... | 1 |
| Champion | 2,199 | 39 | .... | .... | .... | .... | .... | .... | ..... | 1 | 2 |
| Clayton | 4,250 | 65 | .... | 1 | .... | .... | 4 | 3 | ..... | 2 | 1 |
| Ellisburgh | 4,228 | 59 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Henderson | 1,665 | 25 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Hounsfield | 2,279 | 38 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Le Ray | 2,583 | 44 | .... | .... | ... | .... | .... | .... | 4 | ..... | 1 |
| Lorraine | 1,136 | 22 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Lyme | 2,299 | 28 | .... | ... | .... | .... | .... | .... | ..... | ..... | 1 |
| Orleans | 2,259 | 31 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Pamelia | 925 | 14 | ... | .... | .... | .... | .... | ... | ... | ..... | 2 |
| Philadelphia | 1,648 | 33 | .... | .... | .... | .... | .... | .... | 2 | ..... | ..... |
| Rodman | 1,220 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| Rutland | 1,924 | 20 | .... | .... | ... | .... | .... | .... | 1 | ..... | ..... |
| Theresa | 2,342 | 33 | .... | 1 | .... | .... | .... | 1 | ..... | ..... | 1 |
| Watertown | 1,083 | 21 | .... | .... | .... | .... | .... | ... | 1 | ..... | ..... |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Wilna | 4,510 | 59 | .... | 1 | .... | .... | .. | 1 | 3 | 5 | 3 |
| Worth | 933 | 5 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Kings County** | **1,016,500** | | | | | | | | | | |
| BROOKLYN | 978,394 | 21,017 | 127 | 175 | 139 | 362 | 126 | 258 | 866 | 1,845 | 2,169 |
| Flatbush | 12,625 | 1,330 | .... | 13 | .... | 5 | 4 | 8 | 22 | 16 | 225 |
| Flatlands | 4,284 | 65 | .... | 1 | .... | .... | .... | .... | 12 | 1 | 5 |
| Gravesend | 8,418 | 163 | 1 | .... | 2 | 1 | .... | 4 | 8 | 43 | 12 |
| New Utrecht | 9,129 | 227 | 4 | 1 | 1 | .... | .... | 5 | 5 | 31 | 24 |
| **Lewis County** | **30,248** | | | | | | | | | | |
| Croghan | 3,800 | 25 | 1 | .. | .... | .... | .... | .... | ..... | 1 | 1 |
| Denmark | 2,127 | 24 | 1 | .. . | ... | .... | .... | .... | ..... | ..... | 1 |
| Diana | 2,506 | 4 | .... | 1 | .... | .... | .... | .... | ..... | ..... | .. .. |
| Greig | 1,411 | 20 | .... | .... | .... | .... | .... | .... | . .... | ..... | ..... |
| Harrisburgh | 781 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| High Market | 670 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Lewis | 1,087 | 15 | .... | .... | .... | .... | .... | .... | ... .. | 1 | ..... |
| Leyden | 1,640 | 18 | ... | .... | .... | .... | .... | .... | ... .. | ..... | 1 |
| Lowville | 3,954 | 69 | .... | .... | .... | ... | .... | 1 | 3 | ..... | 6 |
| Lyonsdale | 1,422 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Martinsburgh | 1,932 | 23 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Montague | 923 | 16 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| New Bremen | 2,112 | 35 | .... | .... | .... | .... | .... | .... | 2 | ..... | 1 |
| Osceola | 569 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Pinckney | 998 | 10 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Turin | 1,242 | 18 | .... | .... | .... | .... | .... | .... | 1 | ..... | 3 |
| Watson | 1,265 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| West Turin | 1,792 | 24 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Livingston County** | **37,010** | | | | | | | | | | |
| Avon | 3,031 | 38 | .... | 1 | .... | .... | .... | .... | ..... | 1 | 1 |
| Caledonia | 2,070 | 27 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 1 |
| Conesus | 1,180 | 9 | .... | .... | .... | .... | .... | . .. | ... .. | ..... | ..... |
| Geneseo | 3,245 | 18 | .... | .... | .... | .... | .... | 1 | ..... | ... .. | 1 |
| Groveland | 1,233 | 7 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Leicester | 1,638 | 11 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Lima | 2,333 | 27 | ... | .... | .... | .... | .... | .... | ..... | ..... | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC. — (*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **New York County** | **1,860,803** | | | | | | | | | | |
| NEW YORK | 1,860,803 | 44,249 | 467 | 382 | 132 | 548 | 392 | 539 | 2,544 | 3,318 | 5,081 |
| **Niagara County** | **64,378** | | | | | | | | | | |
| LOCKPORT | 16,088 | 197 | ... | 4 | 1 | 1 | .... | .... | 3 | 11 | 14 |
| NIAGARA FALLS | 16,000 | 180 | ... | 5 | .. . | 1 | 1 | .... | 5 | 12 | 12 |
| Cambria | 1,888 | 13 | ... | .... | .... | ... | .... | ... | ..... | ..... | 2 |
| Hartland | 2,784 | 44 | . .. | .... | .... | . . | .... | ... | ..... | 2 | 4 |
| Lewiston | 2,329 | 28 | .... | 1 | .... | .... | ... | .... | ..... | ..... | 4 |
| Lockport | 2,470 | 29 | .... | 1 | .... | .... | ... | .... | 1 | ..... | 1 |
| Newfane | 3,122 | 31 | 1 | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Niagara | ..... | 8 | .... | .... | ... | .... | .... | .... | ..... | ..... | 1 |
| Pendleton | 1,489 | 15 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Porter | 2,080 | 34 | .... | 2 | .... | .... | .... | .... | ..... | 1 | 1 |
| Royalton | 4,768 | 51 | .... | 1 | .... | .... | ... | ... | 2 | ..... | 2 |
| Somerset | 1,857 | 29 | .... | .... | .... | .... | .... | 2 | ..... | ..... | ..... |
| Wheatfield | 5,117 | 33 | .... | .. | .... | .... | ... | ... | ..... | 1 | 2 |
| North Tonawanda | 4,800 | 137 | 1 | 8 | .... | 2 | .... | .... | 6 | 14 | 6 |
| Wilson | 2,861 | 34 | . .. | .... | .... | .... | .... | ... | ..... | ..... | 2 |
| **Oneida County** | **128,756** | | | | | | | | | | |
| UTICA | 46,608 | 924 | .... | 5 | .... | 4 | 3 | .... | 38 | 41 | 108 |
| ROME | 13,638 | 228 | 1 | 2 | 1 | 2 | .. | .... | 2 | 16 | 22 |
| Annsville | 1,963 | 20 | .... | .... | .... | .... | .... | .... | ..... | . ... | ..... |
| Augusta | 1,983 | 29 | ... | . | .... | .... | .... | .... | ..... | ..... | 5 |
| Ava | 828 | 8 | .... | .... | .... | .... | .... | .... | .. ... | ..... | ..... |
| Booneville | 3,512 | 46 | .. | 1 | .... | 1 | ... | .... | 5 | 1 | 5 |
| Bridgewater | 1,053 | 16 | .... | .... | .. | .... | .... | .... | ..... | ..... | ..... |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Monroe County** | **205,222** | | | | | | | | | | |
| ROCHESTER | 150,000 | 2,606 | .... | 58 | 7 | 52 | 3 | 4 | 148 | 187 | 293 |
| Brighton | 3,314 | 39 | .... | 1 | .... | 1 | .... | .... | 3 | 1 | 1 |
| Chili | 2,216 | 18 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 1 |
| Clarkson | 1,721 | 31 | .... | .... | .... | .... | .... | ... | 1 | ..... | ..... |
| Gates | 3,103 | 45 | .... | .... | .... | .... | .... | .... | 5 | 4 | 5 |
| Greece | 5,063 | 43 | .... | .... | .... | 1 | .... | 1 | 3 | 1 | 1 |
| Hamlin | 2,364 | 23 | .... | .... | ... | .... | .... | .... | 3 | 3 | ..... |
| Henrietta | 2,141 | 29 | .... | .... | .... | ... | .... | .... | ..... | ..... | 1 |
| Irondequoit | 2,363 | 29 | .... | .... | .... | ... | .... | .... | 3 | 4 | ..... |
| Mendon | 3,067 | 51 | .... | 1 | .... | 3 | .... | .... | 2 | ..... | 3 |
| Ogden | 2,572 | 44 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 5 |
| Parma | 2,796 | 43 | .... | .... | .... | .... | .... | 1 | ..... | 1 | 1 |
| Penfield | 2,831 | 52 | .... | .. | .... | 5 | .... | .... | 3 | ..... | 2 |
| Perinton | 4,672 | 71 | 1 | 4 | .... | 2 | .... | .... | 2 | 1 | 7 |
| Pittsford | 2,134 | 35 | .... | .... | .... | 1 | .... | .... | ..... | 2 | 2 |
| Riga | 1,933 | 36 | .... | .... | .... | .... | .... | .... | 4 | ..... | 2 |
| Rush | 1,656 | 21 | .... | .... | .... | .... | .... | .... | 1 | ..... | 1 |
| Sweden | 1,240 | 12 | 1 | .... | .... | .... | .... | .... | 1 | ..... | 1 |
| *Brockport* | 3,742 | 44 | .... | 2 | .... | .... | .... | ... | 6 | ..... | 3 |
| Webster | 3,045 | 40 | .... | .... | .... | 2 | .... | .... | 1 | 1 | 1 |
| Wheatland | 2,400 | 23 | .... | .... | .... | .... | .... | .... | ..... | 1 | 2 |
| **Montgomery County** | **46,081** | | | | | | | | | | |
| AMSTERDAM | 18,542 | 283 | 2 | 12 | .... | 4 | 2 | 1 | 12 | 29 | 34 |
| Amsterdam | 3,003 | 32 | .... | 1 | .... | .... | .. . | .... | 1 | 2 | 2 |
| Canajoharie | 4,227 | 68 | .... | .... | .... | .... | .... | ... | ..... | 1 | 5 |
| Charleston | 1,119 | 11 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Florida | 2,146 | 16 | .... | ... | .... | .... | ... | .... | ..... | ..... | ... ... |
| Glen | 2,550 | 12 | 1 | .... | .... | .... | .... | ... | . .... | ..... | ..... |
| Minden | 1,973 | 44 | .... | .... | .... | .... | .... | ... | ..... | ..... | 2 |
| *Fort Plain* | 3,000 | 39 | .... | .... | ... | .... | ... | .... | ..... | 1 | 1 |
| Mohawk | 2,808 | 87 | .... | .... | .... | .... | .... | 1 | 4 | 3 | 4 |
| Palatine | 2,413 | 28 | .... | ... | .... | .... | .... | 1 | ..... | ..... | 1 |
| Root | 1,962 | 12 | .... | .... | 1 | .... | .... | .... | ..... | ..... | ..... |
| St. Johnsville | 2,300 | 55 | 1 | 2 | .... | 2 | 1 | .... | 3 | ..... | 3 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC. — (*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Onondaga County** — (*Continued*). | | | | | | | | | | | |
| Pompey | 2,771 | 36 | .... | .... | .... | .... | .... | .... | ..... | ... .. | 2 |
| Salina | 3,493 | 53 | .... | .... | .... | .... | ... | .... | 6 | ..... | 4 |
| Skaneateles | 4,994 | 53 | .... | .... | .... | .... | .... | .... | ..... | 1 | 4 |
| Spafford | 1,210 | 5 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Tully | 1,378 | 18 | ... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Van Buren | 2,368 | 31 | .... | .... | .... | .... | .... | .... | ..... | 1 | 4 |
| **Ontario County** | 48,718 | | | | | | | | | | |
| Bristol | 1,451 | 26 | .... | . .. | .... | .... | .... | .... | ..... | ..... | ..... |
| Canadice | 677 | 4 | .... | .... | .... | 1 | ... | .... | ..... | ..... | ..... |
| Canandaigua | 2,121 | 19 | .... | .... | .... | .... | .... | .... | ..... | 1 | 3 |
| *Canandaigua* | 5,868 | 112 | 1 | 1 | 1 | .... | .... | 1 | 3 | 10 | 13 |
| East Bloomfield | 2,063 | 17 | .... | .... | .... | .... | .... | .... | 1 | ..... | ..... |
| Farmington | 1,686 | 21 | .... | .... | ... | .... | .... | .... | ..... | ..... | 1 |
| Geneva | 2,402 | 21 | .... | 1 | .... | .... | . .. | .... | 1 | ..... | 1 |
| *Geneva* | 7,557 | 140 | .... | 5 | .... | .. | 1 | .... | 13 | 9 | 8 |
| Gorham | 2,188 | 24 | .... | .... | .... | .... | ... | .... | ..... | ..... | 2 |
| Hopewell | 1,540 | 42 | .... | 2 | 2 | .... | .... | .... | ..... | ..... | 1 |
| Manchester | 4,181 | 75 | ... | 2 | .... | 2 | .... | .... | 7 | 1 | 8 |
| Naples | 2,377 | 15 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Phelps | 5,150 | 74 | . .. | 1 | .. . | .... | .... | 2 | 1 | 4 | 7 |
| Richmond | 1,450 | 22 | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 |
| Seneca | 2,687 | 39 | ... | 1 | .... | .. | .... | .... | ..... | ..... | 2 |
| South Bristol | 1,180 | 2 | .... | .... | .. | .... | ... | .... | ..... | 1 | ..... |
| Victor | 2,605 | 42 | .... | .... | .... | 1 | .... | .... | 1 | ..... | 2 |
| West Bloomfield | 1,435 | 19 | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Orange County** | **97,760** | | | | | | | | | | |
| NEWBURGH | 24,536 | 596 | 4 | 17 | 3 | 11 | 1 | 6 | 35 | 48 | 60 |
| MIDDLETOWN | 11,612 | 274 | 1 | 3 | 1 | ... | 1 | .... | 9 | 19 | 26 |
| Blooming Grove | 2,264 | 31 | .... | 1 | ... | .... | .... | .... | ..... | 2 | 2 |
| Chester | 2,207 | 40 | .... | .... | .... | .... | .... | .... | 1 | ..... | 2 |
| Cornwall | 3,827 | 67 | .... | .... | .... | 1 | .... | ... | ..... | 1 | 2 |
| Crawford | 1,766 | 19 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Deerpark | 3,031 | 29 | .... | 1 | .... | .... | .... | .. | 4 | 2 | 1 |
| *Port Jervis* | 9,327 | 203 | . . | 2 | .... | 2 | .... | 1 | 12 | 15 | 28 |
| Goshen | 4,646 | 82 | .... | .... | .... | .... | .... | 2 | ..... | 1 | 17 |
| Greenville | 797 | 11 | .... | .... | .... | .... | .. | .... | 2 | ..... | ..... |
| Hamptonburgh | 1,105 | 15 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Highlands | 3,406 | 58 | .... | 1 | .... | ... | .... | .... | 1 | 2 | 2 |
| Minisink | 1,277 | 27 | .... | 2 | .... | .... | .... | ... | 1 | ..... | 1 |
| Monroe | 1,701 | 16 | .... | .... | .... | ... | .... | .... | 1 | ..... | 2 |
| Montgomery | 5,259 | 109 | .... | 2 | ... | .... | .... | .... | 3 | 9 | 10 |
| Mount Hope | 1,360 | 26 | .... | .... | .... | ... | .... | .... | ..... | ..... | 1 |
| Newburgh | 3,752 | 34 | .... | 1 | .... | .... | . .. | .... | ..... | 1 | 3 |
| New Windsor | 2,191 | 27 | .... | .... | .... | .... | .... | 1 | ..... | 1 | 1 |
| Tuxedo | 1,813 | 42 | .... | 1 | .... | .... | .... | .... | 1 | 2 | 1 |
| Wallkill | 2,727 | 46 | 1 | 1 | .... | .... | .... | .... | ..... | 1 | 1 |
| Warwick | 5,984 | 80 | .... | 3 | 1 | 1 | .... | 1 | . .... | 3 | 7 |
| Wawayanda | 1,554 | 14 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Woodbury | 1,554 | 31 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| **Orleans County** | **30,762** | | | | | | | | | | |
| *Albion* | 4,586 | 74 | .... | ... | .... | .... | .... | .... | 1 | 4 | 7 |
| Albion | 1,311 | 22 | ... | .... | .... | 1 | .... | .... | ..... | ..... | 2 |
| Barre | 2,099 | 17 | .... | .... | .... | .... | .... | .. .. | ..... | 1 | .... .. |
| Carlton | 2,297 | 31 | 1 | .... | .... | .... | 1 | .... | 1 | ..... | 2 |
| Clarendon | 1,663 | 36 | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| Gaines | 1,953 | 37 | 1 | .... | .... | .... | .... | .... | 5 | ... . | 3 |
| Kendall | 1,681 | 26 | .... | .... | .... | .... | .... | .... | ..... | 3 | 3 |
| Murray | 3,527 | 64 | 1 | .... | .... | .... | .... | .... | ..... | ..... | 7 |
| Ridgeway | 2,902 | 34 | .... | .... | .... | 1 | .... | .... | ..... | 1 | . ..... |
| *Medina* | 4,492 | 71 | .... | 2 | .... | 2 | .... | 1 | 2 | 5 | 6 |
| Shelby | 2,100 | 33 | .... | .... | .... | .... | .... | .... | 2 | ..... | 3 |
| Yates | 1,995 | 22 | .... | .... | .... | .... | .... | .... | ..... | 2 | 2 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.—(*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oswego County** | **70,970** | | | | | | | | | | |
| Oswego | 21,966 | 373 | .... | 11 | .... | 2 | 1 | 2 | 3 | 32 | 46 |
| Albion | 2,071 | 50 | .... | .... | .... | .. | .... | 1 | ..... | ..... | 3 |
| Amboy | 985 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Boylston | 1,115 | 8 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Constantia | 2,604 | 19 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 1 |
| Granby | 4,226 | 68 | .... | .... | .... | .... | 1 | .... | 1 | 3 | 10 |
| Hannibal | 2,719 | 38 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 2 |
| Hastings | 2,448 | 64 | .... | .... | .... | .... | .... | .... | 2 | 1 | 7 |
| Mexico | 2,242 | 74 | .... | 2 | .... | .... | .... | .... | ..... | 3 | 6 |
| New Haven | 1,520 | 35 | .... | ... | ... | .... | .... | .... | ..... | ..... | 1 |
| Orwell | 1,297 | 23 | .... | ... | .... | .... | ... | .... | ..... | ..... | 3 |
| Oswego | 2,755 | 41 | .... | .... | .... | .... | 1 | ... | ..... | 1 | ..... |
| Palermo | 1,615 | 25 | .... | ... | .... | 2 | .... | .... | ..... | 1 | 2 |
| Parish | 1,839 | 26 | .... | ... | ... | .... | 1 | .... | ..... | 1 | 2 |
| Redfield | 1,084 | 9 | .... | ... | .... | .... | .... | .... | ..... | ..... | ..... |
| Richland | 3,637 | 50 | ... | .... | 1 | .... | .... | .... | 2 | 3 | 6 |
| Sandy Creek | 2,342 | 32 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Schroeppel | 3,101 | 49 | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| Scriba | 2,507 | 35 | .... | ... | .... | .... | .... | .... | ..... | 2 | 2 |
| Volney | 2,300 | 32 | .... | .... | .... | . .. | .... | .... | ... .. | ..... | 1 |
| *Fulton* | 4,214 | 87 | .... | .... | 2 | .... | 2 | .... | ..... | 4 | 12 |
| West Monroe | 1,056 | 11 | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Williamstown | 1,236 | 13 | .. | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Otsego County** | **50,361** | | | | | | | | | | |
| Burlington | 1,402 | 17 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Butternuts | 1,777 | 26 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Orange County** | **97,760** | | | | | | | | | | |
| NEWBURGH | 24,536 | 596 | 4 | 17 | 8 | 11 | 1 | 6 | 35 | 48 | 60 |
| MIDDLETOWN | 11,612 | 274 | 1 | 3 | 1 | ... | 1 | .... | 9 | 19 | 26 |
| Blooming Grove | 2,264 | 31 | .... | 1 | ... | .... | .... | .... | ..... | 2 | 2 |
| Chester | 2,207 | 40 | .... | .... | .... | .... | .... | .... | 1 | ..... | 2 |
| Cornwall | 3,827 | 67 | .... | .... | .... | 1 | .... | ... | ..... | 1 | 2 |
| Crawford | 1,766 | 19 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Deerpark | 3,031 | 29 | .... | 1 | .... | .... | .... | .. | 4 | 2 | 1 |
| *Port Jervis* | 9,327 | 203 | . . | 2 | .... | 2 | .... | 1 | 12 | 15 | 23 |
| Goshen | 4,646 | 82 | .... | .... | .... | .... | .... | 2 | ..... | 1 | 17 |
| Greenville | 797 | 11 | .... | .... | .... | .... | .. | .... | 2 | ..... | ..... |
| Hamptonburgh | 1,105 | 15 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Highlands | 3,406 | 58 | .... | 1 | .... | ... | .... | ... | 1 | 2 | 2 |
| Minisink | 1,277 | 27 | .... | 2 | .... | .... | .... | ... | 1 | ..... | 1 |
| Monroe | 1,701 | 16 | .... | .... | .... | ... | .... | .... | 1 | ..... | 2 |
| Montgomery | 5,259 | 109 | .... | 2 | ... | .... | .... | .... | 3 | 9 | 10 |
| Mount Hope | 1,360 | 26 | .... | .... | .... | ... | .... | .... | ..... | ..... | 1 |
| Newburgh | 3,752 | 34 | .... | 1 | .... | .... | . .. | ... | ..... | 1 | 3 |
| New Windsor | 2,191 | 27 | .... | .... | .... | .... | .... | 1 | ..... | 1 | 1 |
| Tuxedo | 1,813 | 42 | .... | 1 | .... | .... | .... | .... | 1 | 2 | 1 |
| Wallkill | 2,727 | 46 | 1 | 1 | .... | .... | .... | .... | ..... | 1 | 1 |
| Warwick | 5,984 | 80 | .... | 3 | 1 | 1 | .... | 1 | . .... | 3 | 7 |
| Wawayanda | 1,554 | 14 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Woodbury | 1,554 | 31 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| **Orleans County** | **30,762** | | | | | | | | | | |
| *Albion* | 4,586 | 74 | .... | ... | .... | .... | .... | .... | 1 | 4 | 7 |
| Albion | 1,311 | 22 | ... | .... | .... | 1 | .... | .... | ..... | ..... | 2 |
| Barre | 2,099 | 17 | .... | .... | .... | .... | .... | .. | ..... | 1 | .... .. |
| Carlton | 2,297 | 31 | 1 | .... | .... | .... | 1 | .... | 1 | ..... | 2 |
| Clarendon | 1,663 | 36 | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| Gaines | 1,953 | 37 | 1 | .... | .... | .... | .... | .... | 5 | ... . | 3 |
| Kendall | 1,681 | 26 | .... | .... | .... | .... | .... | .... | ..... | 3 | 3 |
| Murray | 3,527 | 64 | 1 | .... | .... | .... | .... | .... | ..... | ..... | 7 |
| Ridgeway | 2,902 | 34 | .... | .... | .... | 1 | .... | .... | ..... | 1 | . ..... |
| *Medina* | 4,492 | 71 | .... | 2 | .... | 2 | .... | 1 | 2 | 5 | 6 |
| Shelby | 2,100 | 33 | .... | .... | .... | .... | .... | .... | 2 | ..... | 3 |
| Yates | 1,995 | 22 | .... | .... | .... | .... | .... | .... | ..... | 2 | 2 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.—(*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Oswego County** | **70,970** | | | | | | | | | | |
| Oswego | 21,966 | 373 | .... | 11 | .... | 2 | 1 | 2 | 8 | 32 | 46 |
| Albion | 2,071 | 50 | .... | .... | .... | .. | .... | 1 | ..... | ..... | 3 |
| Amboy | 985 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Boylston | 1,115 | 8 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Constantia | 2,604 | 19 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 1 |
| Granby | 4,226 | 68 | .... | .... | .... | .... | 1 | .... | 1 | 3 | 10 |
| Hannibal | 2,719 | 38 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 2 |
| Hastings | 2,448 | 64 | .... | .... | .... | .... | .... | .... | 2 | 1 | 7 |
| Mexico | 2,242 | 74 | .... | 2 | .... | .... | .... | .... | ..... | 3 | 6 |
| New Haven | 1,520 | 35 | .... | ... | ... | .... | .... | .... | ..... | ..... | 1 |
| Orwell | 1,297 | 23 | .... | ... | .... | .... | ... | .... | ..... | ..... | 3 |
| Oswego | 2,755 | 41 | .... | .... | .... | .... | 1 | ... | ..... | 1 | ..... |
| Palermo | 1,615 | 25 | .... | ... | .... | 2 | .... | .... | ..... | 1 | 2 |
| Parish | 1,839 | 26 | .... | ... | ... | .... | 1 | .... | ..... | 1 | 2 |
| Redfield | 1,084 | 9 | .... | ... | .... | .... | .... | .... | ..... | ..... | ..... |
| Richland | 3,637 | 50 | ... | .... | 1 | .... | .... | .... | 2 | 3 | 6 |
| Sandy Creek | 2,342 | 32 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Schroeppel | 3,101 | 49 | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| Scriba | 2,507 | 35 | .... | ... | .... | .... | .... | .... | ..... | 2 | 2 |
| Volney | 2,300 | 32 | .... | .... | .... | . .. | .... | .... | ... .. | ..... | 1 |
| *Fulton* | 4,214 | 87 | .... | .... | 2 | .... | 2 | .... | ..... | 4 | 12 |
| West Monroe | 1,056 | 11 | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Williamstown | 1,236 | 13 | .. | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| **Otsego County** | **50,361** | | | | | | | | | | |
| Burlington | 1,402 | 17 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Butternuts | 1,777 | 26 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Decatur | 666 | 10 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Edmeston | 1,689 | 23 | .... | .... | ... | .... | .... | .... | ..... | ..... | ..... |
| Exeter | 1,227 | 23 | .... | 1 | ... | .... | .... | .... | ..... | ..... | 1 |
| Hartwick | 1,866 | 20 | ... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Laurens | 1,663 | 30 | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| Maryland | 2,166 | 25 | ... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Middlefield | 2,323 | 38 | .... | .... | .... | .... | 2 | .... | ..... | ..... | 1 |
| Milford | 2,109 | 34 | 1 | .... | .... | .... | .... | .... | .. .. | 3 | 1 |
| Morris | 1,848 | 22 | .... | .... | .... | .... | ... | .... | ..... | ..... | 1 |
| New Lisbon | 1,312 | 21 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Oneonta | 1,571 | 49 | .... | .... | .... | .... | 2 | .... | ..... | 2 | 2 |
| *Oneonta* | 6,776 | 84 | .... | .... | .... | 1 | 1 | 1 | 1 | 4 | 10 |
| Otego | 1,806 | 29 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Otsego | 1,653 | 32 | .... | 1 | .... | .... | 1 | .... | ..... | 2 | ..... |
| *Cooperstown* | 2,657 | 40 | .... | 3 | .... | .... | 1 | .... | ..... | 1 | 1 |
| Pittsfield | 1,186 | 8 | .... | 1 | .... | .... | ... | .... | ..... | ..... | ..... |
| Plainfield | 961 | 19 | .... | .... | .... | .... | .... | .... | ..... | 1 | 2 |
| Richfield | 2,663 | 47 | .... | .... | .... | .... | .... | .... | 4 | 1 | 4 |
| Roseboom | 1,233 | 25 | .... | .... | .... | .... | .... | 1 | ..... | ..... | ..... |
| Springfield | 1,790 | 34 | ... | .... | .... | .... | .... | .... | ..... | 2 | ..... |
| Unadilla | 2,714 | 60 | .... | 1 | .... | .... | .... | .... | 7 | 1 | 3 |
| Westford | 998 | 20 | ... | .... | .... | .... | .... | 2 | ..... | ..... | 2 |
| Worcester | 2,670 | 48 | .... | .... | .... | 1 | 1 | .... | 1 | 1 | 2 |
| **Putnam County** | **14,230** | | | | | | | | | | |
| Carmel | 2,984 | 46 | .... | .... | .... | .... | .... | 1 | 2 | ..... | 3 |
| Kent | 1,177 | 22 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Patterson | 1,415 | 19 | .... | ... | .... | .... | .... | .... | ..... | ..... | ..... |
| Phillipstown | 3,815 | 52 | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| Putnam Valley | 1,221 | 17 | .... | 1 | .... | .... | .... | .... | 1 | ..... | 2 |
| South East | 3,540 | 42 | .... | 1 | .... | .... | .... | .... | ..... | 1 | 3 |
| **Queens County** | **141,805** | | | | | | | | | | |
| LONG ISLAND CITY | 35,745 | 1,009 | 15 | 13 | 7 | 5 | 12 | 8 | 123 | 100 | 80 |
| Flushing | 20,816 | 412 | 2 | 4 | 2 | 3 | .... | 9 | 14 | 28 | 61 |
| Hempstead | 23,991 | 455 | 3 | 4 | 1 | 2 | .... | 11 | 14 | 29 | 26 |
| Jamaica | 17,654 | 393 | .... | 1 | 2 | 1 | 2 | 13 | 13 | 34 | 36 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC. — (*Continued*).

| NAME OF PLACE. | Population. | All diseases. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Queens County** — (*Continued*). | | | | | | | | | | | |
| Newtown | 19,776 | 492 | 2 | 3 | 6 | 15 | 3 | 11 | 20 | 44 | 41 |
| North Hempstead | 8,726 | 155 | .... | .... | 3 | 1 | 1 | 1 | 8 | 3 | 15 |
| Oyster Bay | 14,887 | 279 | .... | 1 | .... | 3 | .... | 1 | 10 | 18 | 32 |
| **Rensselaer County** | **128,923** | | | | | | | | | | |
| TROY | 64,986 | 1,383 | 5 | 37 | 1 | 26 | 1 | 19 | 67 | 81 | 146 |
| Berlin | 1,803 | 31 | .... | 1 | .... | .... | .... | .... | 1 | ..... | 1 |
| Brunswick | 3,684 | 59 | ... | 1 | .... | .... | .... | 1 | 1 | 5 | 3 |
| East Greenbush | 2,126 | 34 | .... | 1 | .... | .... | .... | .... | 1 | ..... | 1 |
| Grafton | 1,414 | 28 | .... | 1 | .... | .... | 1 | .... | ..... | ..... | 1 |
| *Greenbush* | 7,462 | 157 | 2 | 3 | 1 | 3 | .. | .... | 10 | 4 | 18 |
| Hoosick | 3,400 | 51 | ... | .... | .... | .... | .... | .... | 1 | 2 | 4 |
| Hoosick Falls | 7,014 | 131 | 2 | 3 | .... | 3 | .... | .... | 13 | 9 | 18 |
| Lansingburgh | 500 | 10 | .... | ... | .... | ... | .... | .... | ..... | 1 | ..... |
| *Lansingburgh* | 10,550 | 219 | .... | 5 | .... | 3 | .... | 1 | 11 | 15 | 21 |
| Nassau | 2,209 | 53 | .... | 1 | .... | 1 | .... | .... | ..... | ..... | 1 |
| North Greenbush | 4,794 | 96 | .... | 1 | .... | 1 | .... | 1 | | 3 | 2 |
| Petersburgh | 1,584 | 30 | .... | .... | .... | .... | .... | .... | 1 | ..... | 2 |
| Pittstown | 4,036 | 66 | .... | 4 | .... | .... | .... | 1 | 1 | 1 | 5 |
| Poestenkill | 1,503 | 30 | .... | 1 | .... | .... | .... | 1 | 2 | ..... | 3 |
| Sandlake | 2,474 | 36 | .... | ... | .... | ... | .... | .... | ..... | ..... | 1 |
| Schaghticoke | 2,973 | 51 | .... | 3 | .... | .... | 1 | ... | 2 | ... .. | 4 |
| Schodack | 4,514 | 68 | .... | 1 | .... | 2 | .... | .... | 1 | 3 | 4 |
| Stephentown | 1,799 | 38 | ... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| **Richmond County** | **53,452** | | | | | | | | | | |
| *New Brighton* | 17,261 | 360 | 1 | 3 | 1 | 2 | .... | 4 | 20 | 33 | 37 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Middletown | 1,870 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| *Edgewater* | 15,000 | 295 | .... | 6 | 1 | 3 | 1 | 3 | 7 | 21 | 31 |
| Northfield | 3,500 | 67 | 1 | 1 | .... | 1 | .... | 2 | ..... | 4 | 6 |
| *Port Richmond* | 6,400 | 114 | 1 | 1 | .... | .... | .... | 4 | 8 | 11 | 10 |
| Southfield | 1,045 | 16 | .... | 2 | .... | .. . | .... | .... | 1 | ..... | 1 |
| Westfield | 8,648 | 140 | 1 | .... | 2 | 2 | .... | .... | 6 | 21 | 17 |
| **Rockland County** | **33,726** | | | | | | | | | | |
| Clarkstown | 5,552 | 87 | .... | .... | .... | .... | ... | .... | 8 | 1 | 8 |
| Haverstraw | 7,714 | 144 | 2 | .... | 1 | 2 | ... | .... | 20 | 6 | 13 |
| Orangetown | 4,570 | 89 | .... | 1 | .... | .... | .... | 1 | ..... | 2 | 5 |
| *Nyack* | 5,603 | 91 | .... | 2 | .... | .... | .... | .... | 21 | 8 | 8 |
| Ramapo | 6,599 | 104 | .... | 1 | .... | 1 | .... | .... | 6 | 9 | 15 |
| Stony Point | 3,656 | 64 | .... | 1 | .... | .... | .... | .... | 2 | 6 | 3 |
| **St. Lawrence County** | **86,254** | | | | | | | | | | |
| OGDENSBURG | 11,959 | 219 | .... | 2 | .... | 1 | 1 | 6 | 2 | 23 | 27 |
| Brasher | 2,927 | 22 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Canton | 6,013 | 64 | ... | .... | .... | 1 | .... | .... | ..... | 4 | 8 |
| Clare | 332 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Clifton | 855 | 0 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Colton | 1,860 | 35 | .... | 1 | . .. | .... | .... | .... | ..... | ..... | 2 |
| De Kalb | 2,777 | 34 | .... | .... | .... | .... | .... | ... | ..... | ..... | 6 |
| De Peyster | 974 | 9 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Edwards | 1,471 | 7 | .... | .... | .... | .... | .... | .... | 1 | ..... | 1 |
| Fine | 1,337 | 11 | .... | .... | .... | .... | .... | .... | .. ... | 1 | ..... |
| Fowler | 1,750 | 32 | 1 | .... | .... | .... | .... | .... | 2 | ..... | ..... |
| Gouverneur | 5,921 | 98 | 2 | 3 | .... | 1 | .... | .... | 1 | 5 | 16 |
| Hammond | 1,669 | 18 | 2 | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Hermon | 1,509 | 26 | .... | .... | .... | .... | .... | 1 | ..... | .... . | . ..... |
| Hopkinton | 1,933 | 26 | .... | 1 | .... | .... | .... | .... | 1 | ..... | 3 |
| Lawrence | 2,172 | 13 | .... | 2 | .... | .... | .... | .... | ..... | ..... | ..... |
| Lisbon | 3,693 | 93 | .... | .... | ... | .... | .... | .... | ..... | ..... | 5 |
| Louisville | 1,697 | 21 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 2 |
| Macomb | 1,457 | 12 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 1 |
| Madrid | 1,854 | 26 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 4 |
| Massena | 2,776 | 52 | ... | 1 | .... | 8 | .... | 1 | 3 | ..... | 8 |
| Morristown | 1,935 | 22 | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.—(*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **St. Lawrence County**—(*Continued*). | | | | | | | | | | | |
| Norfolk | 1,947 | 16 | 1 | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Oswegatchie | 2,433 | 56 | .... | 1 | .... | 1 | .... | .... | ..... | ..... | 3 |
| Parishville | 2,268 | 54 | .... | 1 | .... | 1 | .... | .... | 1 | 1 | 5 |
| Pierrepont | 1,953 | 21 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Pitcairn | 1,220 | 7 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Potsdam | 4,860 | 93 | .... | .... | .... | 2 | .... | .... | 5 | 2 | 11 |
| *Potsdam* | 4,000 | 75 | .... | 3 | .... | 1 | .... | 3 | 1 | 6 | 5 |
| Rossie | 1,345 | 8 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Russell | 2,077 | 26 | .... | 1 | .... | .... | .... | .... | ..... | 1 | 2 |
| Stockholm | 3,122 | 28 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 5 |
| Waddington | 2,125 | 27 | .... | .... | .... | .... | .... | .... | 1 | ..... | ..... |
| **Saratoga County** | 57,301 | | | | | | | | | | |
| *Ballston Spa* | 3,527 | 71 | 1 | .... | .... | .... | 3 | .... | 4 | 2 | 6 |
| Ballston | 1,551 | 37 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 3 |
| Charlton | 1,121 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Clifton Park | 2,215 | 24 | .... | 1 | .... | .... | .... | .... | ..... | 1 | ..... |
| Corinth | 2,370 | 53 | .... | .... | .... | 1 | .... | .... | 1 | ..... | 4 |
| Edinburgh | 1,283 | 21 | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| Day | 886 | 14 | .... | .... | 1 | .... | .... | .... | ..... | 1 | 1 |
| Galway | 1,520 | 30 | .... | .... | .... | 1 | .... | 2 | 1 | ..... | 2 |
| Greenfield | 2,066 | 31 | .... | .... | .... | .... | .... | .... | 1 | ..... | 2 |
| Hadley | 1,115 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Half Moon | 4,015 | 82 | .... | 2 | .... | .... | .... | .... | 2 | 2 | 5 |
| Malta | 1,161 | 17 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Milton | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Northumberland | 1,420 | 19 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Providence | 820 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Saratoga | 3,980 | 65 | .... | 1 | .. . | 15 | .... | ... | 1 | ..... | 5 |
| Saratoga Springs | 500 | 18 | ... | .... | .... | .... | .... | .... | ..... | 3 | ..... |
| *Saratoga Springs* | 13,000 | 254 | 2 | 2 | ... | 1 | .... | 3 | 11 | 13 | 28 |
| Stillwater | 3,758 | 78 | .... | 1 | .... | .... | .... | .... | 2 | 4 | 7 |
| Waterford | 5,522 | 131 | .... | 2 | 1 | 7 | .... | .... | 6 | 11 | 12 |
| Wilton | 983 | 19 | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| **Schenectady County** | **34,194** | | | | | | | | | | |
| SCHENECTADY | 22,858 | 478 | 1 | 21 | 4 | 15 | .... | 2 | 29 | 43 | 49 |
| Duanesburgh | 2,581 | 20 | .... | 1 | .... | 1 | 1 | .... | ..... | ..... | ..... |
| Glenville | 2,510 | 30 | .... | .... | .... | .... | .... | .... | ..... | 1 | 3 |
| Niskayuna | 1,062 | 11 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Princetown | 695 | 9 | .... | .... | .... | .... | .. .. | .... | ..... | ... .. | ..... |
| Rotterdam | 4,488 | 61 | .... | 2 | 1 | .... | .... | .... | 1 | 3 | 4 |
| **Schoharie County** | **28,815** | | | | | | | | | | |
| Blenheim | 942 | 13 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Broome | 1,397 | 18 | .... | .... | .... | ... | .... | 1 | ..... | ... .. | ..... |
| Carlisle | 1,387 | 16 | .... | 1 | ... | .... | .... | 1 | ..... | ..... | ..... |
| Cobleskill | 3,436 | 57 | .... | 1 | .... | .... | .... | .... | .... . | 4 | 7 |
| Conesville | 910 | 14 | .... | .... | .... | .... | 2 | .... | ..... | .. ... | .. .... |
| Esperance | 1,175 | 14 | .... | .... | .... | .... | .... | .... | 1 | ..... | 1 |
| Fulton | 2,354 | 29 | 1 | 1 | ... | .... | ... | .... | ... .. | ..... | ..... |
| Gilboa | 1,707 | 22 | .... | 1 | ... | .... | .... | .... | 1 | ..... | ..... |
| Jefferson | 1,496 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Middleburgh | 3,005 | 42 | .... | 2 | .... | .... | .... | 2 | ..... | ... .. | 5 |
| Richmondville | 1,840 | 31 | .... | 1 | .... | 1 | .... | .... | ..... | ... .. | 1 |
| Schoharie | 2,803 | 47 | ... | 2 | .... | .... | .... | 1 | ..... | ..... | 5 |
| Seward | 1,637 | 22 | .... | .... | .... | .... | .... | 1 | ..... | ..... | ..... |
| Sharon | 2,078 | 33 | .... | .... | .... | .... | .... | .... | 1 | .... . | 2 |
| Summit | 1,332 | 14 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| Wright | 1,302 | 18 | .... | .... | .... | .... | .... | .... | ..... | ... .. | ..... |
| **Schuyler County** | **16,861** | | | | | | | | | | |
| Catherine | 1,883 | 9 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Cayuta | 551 | 10 | .... | .... | ... | .... | .... | .... | 4 | ..... | ..... |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC. — (*Continued*).

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|---|---|---|---|---|---|---|---|---|---|---|---|
| **Schuyler County** — (*Continued*). | | | | | | | | | | | |
| Dix | 3,710 | 68 | .... | 1 | .... | .... | .... | .... | ..... | 2 | 5 |
| Hector | 4,832 | 62 | 1 | 1 | .... | ... | .... | .... | ..... | 2 | 1 |
| Montour | 1,941 | 25 | .... | ... | .... | 2 | ... | .... | ..... | ..... | 3 |
| Orange | 1,460 | 26 | .... | .... | .... | .... | ... | ... | ..... | ..... | ..... |
| Reading | 1,378 | 18 | .... | .. | .... | .... | ... | .... | ..... | ..... | ..... |
| Tyrone | 1,635 | 4 | ... | .... | .... | ... | .... | .... | ..... | ..... | ..... |
| **Seneca County** | **26,542** | | | | | | | | | | |
| Covert | 1,865 | 20 | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Fayette | 2,378 | 28 | .... | .... | ... | .... | .. | .... | ..... | ..... | 3 |
| Junius | 1,108 | 15 | .... | .... | ... | . .. | ... | ... | ..... | ..... | ..... |
| Lodi | 1,666 | 25 | .... | .... | .... | ... | 1 | .... | 1 | ..... | 1 |
| Ovid | 2,291 | 143 | .... | .... | .... | .... | .... | ... | ..... | 1 | 19 |
| Romulus | 2,181 | 102 | .... | 1 | .... | .... | .... | .... | ..... | 1 | 9 |
| Seneca Falls | 850 | 10 | .. . | .... | .... | .... | . .. | .... | ..... | ..... | 1 |
| *Seneca Falls* | 6,500 | 99 | 1 | .... | 3 | .... | ... | .... | 1 | 7 | 18 |
| Tyre | 955 | 13 | .... | .... | .... | ... | .... | .... | ..... | ..... | ..... |
| Varick | 1,379 | 19 | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 |
| Waterloo | 1,000 | 20 | .... | 1 | .... | .... | .... | .... | ..... | ..... | ..... |
| *Waterloo* | 4,350 | 65 | .... | .... | .... | .... | 1 | .... | 7 | ..... | 4 |
| **Steuben County** | **82,468** | | | | | | | | | | |
| CORNING | 10,025 | 188 | 1 | 9 | 1 | 4 | 6 | .... | 28 | 15 | 14 |
| HORNELLSVILLE | 11,898 | 170 | ... | 6 | ... | 3 | .... | 1 | 9 | 11 | 13 |
| Addison | 2,813 | 50 | .... | 1 | ... | ... | 1 | .... | 1 | 1 | . ..... |
| Avoca | 2,236 | 5 | .... | .... | .... | .... | .... | .... | ..... | .. ... | 1 |
| Bath | 3,800 | 104 | . .. | .... | .... | .... | .. | .... | 1 | ..... | 4 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Bath* | 3,261 | 60 | .... | 2 | .... | .... | .... | 1 | ..... | 5 | 7 |
| Bradford | 774 | 15 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Cameron | 1,455 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Campbell | 1,539 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Canisteo | 3,593 | 40 | .... | 2 | .... | .... | .... | ... | 2 | ..... | 1 |
| Caton | 1,388 | 10 | ... | .... | .... | .... | .... | .... | ... .. | ..... | 1 |
| Cohocton | 3,428 | 27 | 1 | .... | .... | .... | .... | .... | 1 | ..... | ..... |
| Corning | 1,838 | 15 | .... | .... | .... | .... | .... | ... | ..... | 1 | ..... |
| Dansville | 1,544 | 12 | .... | .... | .... | 1 | .... | .... | ..... | 1 | . ..... |
| Erwin | 1,843 | 22 | .... | 1 | .... | .... | .... | .... | ..... | ..... | . ..... |
| Fremont | 1,088 | 18 | .... | .... | .... | .... | .... | .... | 5 | ..... | 1 |
| Greenwood | 1,241 | 10 | .... | .... | .... | .... | .... | .... | ..... | .... | ..... |
| Hartsville | 782 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Hornby | 1,080 | 17 | ... | .... | .... | .... | ... | .... | ..... | 1 | ..... |
| Hornellsville | 1,806 | 17 | ... | .... | .... | .... | .... | .... | 1 | ... .. | 1 |
| Howard | 1,885 | 9 | .... | 1 | .... | 1 | .... | .... | 1 | ..... | ..... |
| Jasper | 1,689 | 25 | .... | .... | .... | .... | .... | .... | 6 | ..... | ..... |
| Lindley | 1,455 | 4 | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| Prattsburgh | 2,149 | 16 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Pulteney | 1,693 | 24 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 1 |
| Rathbone | 1,226 | 9 | .... | .... | .... | .... | .... | ... | ..... | ..... | 2 |
| Thurston | 1,084 | 12 | .... | .... | .... | ... | ... | . .. | . .. | ..... | ..... |
| Troupsburgh | 2,171 | 20 | .... | .... | .... | .... | 3 | .... | ..... | ..... | ..... |
| Tuscarora | 1,393 | 10 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Urbana | 2,542 | 43 | .... | 1 | .... | 10 | .... | .... | 1 | 4 | ..... |
| Wayne | 830 | 6 | .... | .... | .... | .... | .... | .... | 1 | ..... | ..... |
| Wayland | 2,375 | 23 | . .. | .... | .... | .... | . .. | .... | ..... | ..... | 2 |
| West Union | 1,150 | 14 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 1 |
| Wheeler | 1,326 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Woodhull | 2,084 | 15 | .... | .... | .... | .... | .... | .... | 2 | ..... | 1 |
| **Suffolk County** | 63,572 | | | | | | | | | | |
| Babylon | 6,049 | 102 | 1 | 1 | .... | 6 | .... | .... | 1 | 7 | 9 |
| Brookhaven | 13,493 | 268 | .... | 5 | .... | 1 | .... | 1 | 2 | 15 | 23 |
| East Hampton | 2,969 | 25 | ... | .... | .... | .... | .. . | .... | ..... | ..... | ..... |
| Huntington | 8,253 | 140 | .... | 1 | 1 | 3 | .... | ... | 2 | 8 | 9 |
| Islip | 9,211 | 139 | .... | .... | .... | .... | .... | ... | 4 | 8 | 13 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.—(*Continued*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Suffolk County**—(*Continued*). | | | | | | | | | | | |
| Riverhead | 4,196 | 68 | .... | 2 | .... | ... | ... | .... | 2 | 2 | 2 |
| Shelter Island | 907 | 13 | .... | .... | ... | .... | .... | .... | ..... | ..... | 1 |
| Smithtown | 2,674 | 82 | .... | 2 | .... | .... | .... | .... | 2 | 2 | 11 |
| South Hampton | 5,041 | 112 | .... | 2 | .... | .... | .... | .... | ..... | 4 | 5 |
| *Sag Harbor* | 3,000 | 54 | .... | .... | .... | .... | .... | .... | ..... | 5 | 7 |
| Southold | 7,671 | 120 | .... | 1 | 9 | .... | .... | .... | 4 | 8 | 9 |
| **Sullivan County** | 31,860 | | | | | | | | | | |
| Bethel | 2,227 | 20 | ... | ... | .... | .... | .... | ... | ..... | ..... | ... ... |
| Callicoon | 2,041 | 34 | .... | .... | .... | ... | .... | 1 | 5 | ..... | 2 |
| Cochecton | 1,175 | 20 | .... | 1 | ... | .... | ... | .... | 3 | 1 | ..... |
| Delaware | 1,765 | 17 | .... | ... | .... | .... | . | .... | ..... | 1 | ..... |
| Fallsburgh | 2,964 | 17 | ... | 1 | .... | .... | ... | .... | ..... | ..... | ..... |
| Forestburgh | 679 | 5 | .... | .... | ... | .... | .... | .... | ..... | 1 | ..... |
| Fremont | 2,223 | 10 | .... | .... | .... | .... | .... | .... | ..... | . .. | ..... |
| Highlands | 1,000 | 18 | ... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| Liberty | 3,471 | 46 | .... | .... | ... | .... | .... | .... | ... .. | 4 | 5 |
| Lumberland | 878 | 5 | .... | .... | .... | ... | .... | .... | ..... | ..... | ..... |
| Mamakating | 3,504 | 58 | .... | 1 | ... | ... | .... | .... | 1 | 3 | 3 |
| Neversink | 2,079 | 19 | .... | 1 | .... | .... | ... | .... | ... .. | 1 | 1 |
| Rockland | 3,315 | 37 | 1 | ... | .... | ... | .... | .... | .... | ..... | 2 |
| Thompson | 3,428 | 83 | . | .... | .... | ... | .... | .... | 6 | ..... | 1 |
| Tusten | 1,012 | 9 | .... | 1 | .... | .. | .... | .... | 1 | .. ... | 2 |
| **Tioga County** | 29,675 | | | | | | | | | | |
| *Waverly* | 4,123 | 56 | .... | ... | .... | .... | .... | ... | 1 | 7 | 2 |
| Barton | 2,372 | 27 | .... | 1 | .... | .... | .... | 1 | ..... | ..... | 4 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Berkshire | 1,157 | 10 | .... | 2 | .... | ... | .... | .... | ..... | ..... | .. .... |
| Candor | 3,535 | 68 | .... | .... | .... | .... | ... | 1 | 6 | 2 | 1 |
| Newark Valley | 2,296 | 31 | .... | ... | .... | .... | .... | 1 | 1 | ..... | 1 |
| Nichols | 1,635 | 8 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Owego | 2,762 | 16 | .... | .... | .... | .... | ... | .... | ..... | ..... | ..... |
| *Owego* | 6,000 | 105 | .... | .... | .... | .... | .... | 1 | 2 | 5 | 14 |
| Richford | 1,252 | 16 | .... | .... | .... | .... | .... | ... | ..... | ..... | 1 |
| Spencer | 2,144 | 19 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 1 |
| Tioga | 2,378 | 7 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| **Tompkins County** | **33,612** | | | | | | | | | | |
| ITHACA | 13,460 | 132 | .... | 4 | ... | .... | 2 | 1 | 9 | 4 | 12 |
| Caroline | 2,035 | 22 | .... | .... | ... | .... | .... | .... | 1 | ..... | ..... |
| Danby | 1,676 | 19 | .... | .... | .... | .... | .... | .... | ... .. | ... .. | ..... |
| Dryden | 3,912 | 52 | .... | 1 | .... | 1 | .... | .... | ..... | ..... | 2 |
| Enfield | 1,332 | 10 | .... | .... | .... | .... | .... | .... | ..... | .. . | ..... |
| Groton | 3,607 | 37 | .... | .... | . .. | .... | .... | .... | .. .. | 2 | 2 |
| Ithaca | ..... | 8 | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Lansing | 2,488 | 19 | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 |
| Newfield | 2,195 | 9 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Ulysses | 2,868 | 5 | .... | .... | .... | .... | .... | .... | ..... | ..... | . ..... |
| **Ulster County** | **87,652** | | | | | | | | | | |
| KINGSTON | 21,495 | 435 | 15 | 6 | 8 | 10 | 1 | 5 | 29 | 25 | 34 |
| Denning | 894 | 5 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Esopus | 5,085 | 90 | .... | .... | 3 | .... | 2 | 1 | 2 | 8 | 5 |
| Gardiner | 1,788 | 30 | .... | ... | .... | .... | .... | .... | ..... | ..... | ..... |
| Hardenburgh | 744 | 6 | .... | ... | .... | .... | .... | 1 | ..... | ..... | ..... |
| Hurley | 2,266 | 35 | 1 | .... | .... | .... | 2 | .... | .. ... | ..... | 3 |
| Kingston | 662 | 15 | .... | .... | .... | ... | .... | .... | ..... | 1 | 1 |
| Lloyd | 2,502 | 50 | 1 | 1 | ... | 1 | .... | .... | ..... | ..... | 1 |
| Marbletown | 3,689 | 69 | .... | 2 | 2 | .... | 3 | .... | 1 | 5 | 7 |
| Marlborough | 3,521 | 43 | . .. | 1 | .... | ... | ... | .... | ..... | ..... | 4 |
| New Paltz | 2,112 | 46 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 2 |
| Olive | 2,688 | 21 | .... | .... | .... | .... | .... | .... | 1 | 1 | ..... |
| Plattekill | 1,955 | 20 | .... | .... | .... | .... | 1 | .... | 1 | . .. | ..... |
| Rochester | 3,487 | 47 | .... | 1 | .... | .... | .... | .... | 1 | ..... | 3 |
| Rosendale | 6,125 | 115 | 2 | 5 | 4 | .... | 2 | .... | ..... | 9 | 11 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.—(*Continued.*)

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ulster County**—(*Continued*). | | | | | | | | | | | |
| Saugerties | 6,035 | 69 | .... | .... | ... | .... | 1 | .... | 2 | 3 | 5 |
| *Saugerties* | 4,237 | 77 | 1 | 2 | .... | .... | 1 | .... | 1 | 4 | 10 |
| Shandaken | 3,142 | 53 | .... | .... | .... | .... | .... | 3 | 2 | 2 | 3 |
| Shawangunk | 2,505 | 22 | .... | .... | .... | .... | .... | 1 | ..... | ..... | 2 |
| Ulster | 3,096 | 18 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Wawarsing | 4,866 | 41 | .... | .... | .... | .... | .... | .... | 1 | 1 | 3 |
| *Ellenville* | 3,000 | 49 | .... | .... | 1 | .... | .... | .... | 1 | 5 | 5 |
| Woodstock | 1,676 | 29 | 1 | .... | .... | 1 | .... | .... | ..... | ..... | 4 |
| **Warren County** | 28,618 | | | | | | | | | | |
| Bolton | 1,376 | 23 | .... | .... | .... | ... | .... | .... | ..... | ..... | 1 |
| Caldwell | 1,376 | 15 | .... | 1 | .... | .... | .... | .... | 2 | ..... | ..... |
| Chester | 2,247 | 25 | .... | 1 | .... | .... | .... | ... | ..... | ..... | ..... |
| Hague | 767 | 3 | .... | .... | .... | .... | ... | .... | 1 | ..... | ..... |
| Horicon | 1,534 | 17 | .... | .... | .... | ... | .... | .... | ..... | ..... | 2 |
| Johnsburgh | 2,886 | 30 | .... | 1 | .... | .... | .... | .... | 1 | ..... | ..... |
| Luzerne | 1,592 | 25 | .... | .... | .... | ... | ... | .... | ..... | ..... | 2 |
| Queensbury | 2,600 | 35 | .... | .... | .... | ... | .... | .... | 2 | 1 | 2 |
| *Glens Falls* | 10,000 | 194 | 1 | 5 | 2 | .... | .... | .... | 17 | 12 | 18 |
| Stony Creek | 1,276 | 9 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Thurman | 1,071 | 9 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Warrensburgh | 1,831 | 34 | .... | 2 | .... | .... | .... | .... | 1 | ..... | 1 |
| **Washington County** | 46,458 | | | | | | | | | | |
| Argyle | 2,193 | 58 | .... | ... | ... | .... | .... | .... | ..... | ..... | 4 |
| Cambridge | 2,067 | 59 | ... | 3 | ... | .... | .... | .... | 3 | 1 | 5 |
| Dresden | 628 | 11 | .... | .... | .... | .... | .... | .... | 1 | ..... | ..... |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fort Ann | 2,711 | 42 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 4 |
| Fort Edward | 4,882 | 91 | .... | .... | 1 | 3 | .... | .... | 7 | 5 | 9 |
| Granville | 5,281 | 85 | .... | 3 | .... | .... | .... | .... | 1 | 5 | 7 |
| Greenwich | 4,431 | 77 | .... | 3 | .... | .... | .... | .... | 1 | 3 | 8 |
| Hampton | 737 | 11 | .... | .... | .... | .... | .... | .... | 1 | ..... | ..... |
| Hartford | 1,498 | 31 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Hebron | 1,965 | 17 | .... | .... | .... | .... | .... | .... | .... | 1 | ..... |
| Jackson | 1,129 | 19 | .... | 2 | .... | .... | .... | .... | ..... | ..... | ..... |
| Kingsbury | 5,112 | 74 | .... | 1 | ... | 3 | .... | .... | ..... | .... | 8 |
| Putnam | 554 | 5 | .... | ... | .... | .... | .... | ... | ..... | ..... | ..... |
| Salem | 3,167 | 54 | .... | 2 | ... | 3 | .... | .... | 2 | ..... | 4 |
| White Creek | 2,680 | 23 | .... | 1 | .... | .... | .... | .... | ..... | .... | ..... |
| Whitehall | 1,009 | 12 | .... | .... | .... | .... | .... | .... | ..... | .... | ..... |
| *Whitehall* | 4,434 | 62 | .... | 1 | .... | .... | .... | .... | 2 | 3 | 5 |
| **Wayne County** | **48,262** | | | | | | | | | | |
| *Newark* | 3,000 | 58 | .... | 1 | .... | .... | .... | .... | 4 | 3 | 6 |
| Arcadia | 3,000 | 37 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 2 |
| Butler | 1,960 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Galen | 2,000 | 18 | .... | .... | .... | .... | .... | .... | 1 | ..... | ..... |
| *Clyde* | 3,000 | 55 | .... | 2 | .... | .... | 2 | .... | ..... | 3 | 10 |
| Huron | 1,713 | 24 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Lyons | 6,127 | 102 | 2 | 2 | .... | .... | 4 | .... | 2 | 3 | 11 |
| Macedon | 2,520 | 32 | .... | 1 | .... | 1 | .... | .... | 1 | ..... | 1 |
| Marion | 2,194 | 31 | .... | 2 | ... | .... | .... | .... | ..... | 2 | 4 |
| Ontario | 2,554 | 28 | .... | .... | .... | .... | .... | .... | 1 | ..... | 5 |
| Palmyra | 4,173 | 71 | .... | 1 | 2 | .... | .... | .... | ..... | 3 | 4 |
| Rose | 1,013 | 40 | .... | .... | .... | .... | .... | .... | 1 | ..... | 3 |
| Savannah | 1,823 | 26 | .... | 1 | .... | .... | .... | .... | 2 | ..... | ..... |
| Sodus | 5,066 | 72 | .... | .... | .... | .... | .... | .... | 1 | 2 | 2 |
| Walworth | 2,210 | 29 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 2 |
| Williamson | 2,683 | 51 | .... | 2 | .... | .... | .... | .... | ..... | 1 | 3 |
| Wolcott | 3,273 | 41 | 1 | 1 | .... | .... | .... | .... | ..... | 1 | 2 |
| **Westchester County** | **148,931** | | | | | | | | | | |
| YONKERS | 34,000 | 641 | 4 | 8 | 3 | 10 | 1 | .... | 23 | 84 | 47 |
| MOUNT VERNON | 15,513 | 320 | 5 | 4 | 1 | 4 | 4 | .... | 11 | 42 | 21 |
| Bedford | 3,267 | 41 | .... | .... | .... | 1 | .... | .... | ..... | ..... | 2 |

RECORD OF EACH REPORTING LOCAL BOARD OF HEALTH, ETC.—(*Concluded*).

| NAME OF PLACE. | Population. | All deaths. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Scarlet fever. | Measles. | Whooping cough. | Diphtheria. | Diarrhœa. | Consumption. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Westchester County** — (*Continued*): | | | | | | | | | | | |
| Cortlandt | 5,525 | 110 | 2 | 1 | .... | .... | .... | .... | 3 | 7 | 10 |
| *Peekskill* | 9,675 | 177 | .... | 3 | .... | 1 | .... | .... | 8 | 16 | 26 |
| East Chester | 2,250 | 101 | .... | .... | .... | 3 | .... | .... | ..... | 6 | 12 |
| Greenburgh | 11,407 | 195 | 1 | 1 | 6 | .... | .... | 3 | 18 | 16 | 19 |
| Harrison | 1,444 | 22 | .... | .. | .... | .... | .... | .... | ..... | 1 | 1 |
| Lewisboro | 1,369 | 23 | .... | .. | .... | .... | .... | .... | ..... | 1 | 3 |
| Mamaroneck | 2,470 | 5 | .... | ... | .... | .... | .... | .... | ..... | ..... | 1 |
| Mount Pleasant | 5,870 | 198 | .... | ... | .... | .... | .... | .... | 24 | 6 | 11 |
| Newcastle | 2,187 | 39 | .... | .... | .... | .... | .... | .. | 2 | ..... | 3 |
| *New Rochelle* | 8,217 | 143 | 1 | 1 | 3 | .... | .... | .... | 8 | 10 | 13 |
| New Rochelle | 1,500 | 5 | .... | .... | ... | .... | .... | .... | ..... | ..... | ..... |
| North Castle | 1,463 | 34 | .... | 1 | .... | .... | .... | .... | ..... | 3 | 2 |
| North Salem | 1,939 | 29 | .... | .... | .... | .... | .... | .... | ..... | 2 | 2 |
| Ossining | 700 | 33 | ... | 1 | .... | .... | .... | .... | ..... | 1 | 3 |
| *Sing Sing* | 9,352 | 161 | 1 | 1 | .... | 2 | .... | .... | 3 | 10 | 22 |
| Pelham | 2,696 | 132 | .... | .... | .... | .... | .... | .... | ..... | 2 | 49 |
| Poundridge | 841 | 11 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Rye | 4,406 | 88 | .... | .... | .... | .... | 2 | .... | 1 | 6 | 6 |
| *Port Chester* | 5,274 | 140 | 1 | .... | 1 | 4 | 2 | 1 | 7 | 21 | 11 |
| Scarsdale | 594 | 1 | .... | .. | .... | .... | .... | .... | ..... | ..... | ..... |
| Somers | 1,743 | 20 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 3 |
| Westchester | 8,326 | 187 | .... | 2 | 2 | .... | .... | 1 | 9 | 25 | 25 |
| White Plains | 1,133 | 8 | .... | .... | .... | .... | .... | .... | ..... | ... .. | 1 |
| *White Plains* | 4,042 | 109 | 4 | 2 | .... | 2 | 3 | .... | 9 | 2 | 11 |
| Yorktown | 2,241 | 27 | .... | .... | .... | .... | .... | .... | ..... | 1 | 3 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | 29 | .... | .... | .... | .... | .... | .... | ..... | ..... | 6 |
| Attica | 2,845 | 43 | .... | 1 | .... | .... | .... | .... | 2 | ..... | ..... |
| Bennington | 2,083 | 33 | .... | 1 | .... | 2 | .... | .... | ..... | 1 | 1 |
| Castile | 2,844 | 28 | .... | 1 | .... | .... | .... | .... | ..... | ..... | 1 |
| Covington | 1,119 | 6 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Eagle | 1,154 | 21 | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 |
| Gainesville | 2,302 | 42 | .... | 1 | .... | .... | .... | .... | ..... | 2 | ..... |
| Genesee Falls | 697 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Java | 1,900 | 25 | .... | .... | .. | .... | ... | .... | ..... | ..... | 2 |
| Middlebury | 1,605 | 19 | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| Orangeville | 1,123 | 20 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Perry | 2,990 | 41 | .... | .... | .... | .... | ... | 1 | ..... | ..... | 3 |
| Pike | 1,334 | 15 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Sheldon | 2,061 | 22 | .... | .. | .... | .... | .... | .... | ..... | ..... | ..... |
| Warsaw | 4,698 | 75 | 1 | 3 | .... | .... | .... | .... | 4 | 8 | 3 |
| Wethersfield | 1,026 | 6 | ... | .... | .... | .... | .... | .... | ..... | 1 | 1 |
| **Yates County** | **20,801** | | | | | | | | | | |
| Barrington | 1,318 | 10 | .. | .... | .... | .... | .... | ... | ..... | ..... | ..... |
| Benton | 2,202 | 22 | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... |
| Italy | 1,190 | 10 | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Jerusalem | 2,801 | 31 | .... | 2 | .... | .... | .... | .... | 1 | ..... | ..... |
| Middlesex | 1,364 | 11 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... |
| Milo | 2,322 | 27 | .... | .... | ... | .... | .... | .... | ..... | 4 | 1 |
| *Penn Yan* | 4,254 | 77 | 1 | 2 | .... | 1 | 1 | 1 | 5 | 4 | 10 |
| Potter | 1,693 | 26 | .... | .. | ... | ... | .... | .. .. | ..... | ..... | 5 |
| Starkey | 2,668 | 36 | .... | .... | .... | .... | ... | .... | ..... | ..... | 1 |
| Torrey | 1,137 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ... ... |

## MONTHLY BULLETIN OF THE N

*Abstract of reports of deaths and causes in the followi*

[Cities are printed in SMALL CAPITALS, villages in *italics* and town

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | |
|---|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | ..... | 6,257 | ..... | 2,100 | 33.5 | 132.00 | 26 | |
| NEW YORK CITY | 1,860,803 | 3,736 | 22.56 | 1,297 | 35.7 | 136.10 | 22 | |
| BROOKLYN | 978,394 | 1,767 | 21.26 | 632 | 35.2 | 136.38 | 4 | |
| Gravesend | 8,418 | 9 | 11.87 | 3 | 33.3 | 222.22 | ..... | |
| New Utrecht | 9,129 | 19 | 24.98 | 2 | 10.5 | 52.50 | ..... | |
| LONG ISLAND CITY | 35,745 | 68 | 22.82 | 16 | 23.4 | 132.35 | ..... | |
| Newtown | 19,776 | 37 | 22.25 | 9 | 24.3 | 135.13 | ..... | |
| Oyster Bay | 14,887 | 26 | 22.40 | 4 | 15.4 | ..... | ..... | |
| Hempstead | 23,991 | 19 | ..... | 3 | 15.7 | 105.25 | ..... | |
| North Hempstead | 8,726 | 15 | 20.70 | 4 | 26.4 | 262.72 | ..... | |
| Jamaica | 17,654 | 30 | 20.40 | 8 | 26.7 | 80.00 | ..... | |
| Flushing | 20,816 | 25 | ..... | 8 | 32.0 | 80.00 | ..... | |
| Southhold | 7,671 | 13 | 20.25 | 1 | 7.7 | 200.25 | ..... | |
| *Sag Harbor* | 3,000 | 6 | 24.00 | 2 | 33.3 | ..... | ..... | |
| Huntington | 8,253 | 16 | 23.36 | 2 | 12.5 | ..... | ..... | |
| Brookhaven | 13,493 | 12 | ..... | 2 | 16.7 | 83.33 | ..... | |
| *New Brighton* | 16,423 | 39 | 24.90 | 8 | 20.5 | 102.50 | ..... | |
| *Edgewater* | 14,265 | 32 | 26.88 | 9 | 28.1 | 31.14 | ..... | |
| *Port Richmond* | 6,390 | 10 | 18.75 | 4 | 40.0 | 201.01 | ..... | |
| Westfield | 8,648 | 8 | ..... | 1 | 12.5 | ..... | ..... | |
| YONKERS | 31,000 | 50 | 17.65 | 15 | 30.0 | 70.00 | ..... | |
| Westchester | 8,326 | 10 | 15.00 | 2 | 20.0 | ..... | ..... | |
| Greenburgh | 11,630 | 20 | 20.60 | 6 | 30.0 | 300.00 | ..... | |
| *Mount Vernon* | 10,830 | 34 | ..... | 6 | 18.2 | 117.10 | ..... | |
| *Port Chester* | 5,274 | 8 | 17.20 | 3 | 37.5 | 500.00 | ..... | |
| *Sing Sing* | 9,352 | 10 | 13.30 | 3 | 30.0 | 100.00 | ..... | |
| *New Rochelle* | 8,217 | 11 | 16.00 | 3 | 27.3 | ..... | ..... | |
| *Peekskill* | 9,676 | 15 | 18.70 | 5 | 33.3 | 200.01 | ..... | |
| *White Plains* | 4,012 | 5 | 15.00 | 3 | 60.0 | ..... | ..... | |
| Rest of District | ..... | 217 | ..... | 59 | 18.0 | 101.38 | ..... | |
| HUDSON VALLEY DISTRICT: Totals | ..... | 1,150 | ..... | 234 | 23.0 | 168.70 | 5 | |
| ALBANY | 98,000 | 234 | 23.18 | 65 | 27.7 | 115.37 | 3 | |
| COHOES | 23,234 | 25 | ..... | 11 | 45.0 | 360.00 | ..... | |
| TROY | 64,986 | 148 | 27.38 | 35 | 23.7 | 200.00 | 1 | |
| *West Troy* | 12,967 | 25 | 23.07 | 9 | 36.0 | 480.00 | ..... | |
| *Green Island* | 4,463 | 13 | 34.97 | 6 | 46.2 | 384.60 | ..... | |
| *Lansingburgh* | 10,550 | 11 | 12.50 | 3 | 27.2 | 191.91 | ..... | |
| *Hoosick Falls* | 7,014 | 7 | 12.00 | 3 | 42.8 | 142.85 | ..... | |
| *Greenbush* | 7,462 | 15 | 24.66 | 2 | 13.3 | 66.66 | ..... | |
| Coxsackie | 3,324 | 6 | 19.08 | 1 | 16.7 | 166.67 | ..... | |
| *Catskill* | 4,920 | 20 | 48.60 | 8 | 40.0 | 250.00 | ..... | |
| HUDSON | 9,633 | 24 | 29.76 | 5 | 20.8 | 166.67 | ..... | |
| KINGSTON | 21,500 | 24 | 13.44 | 6 | 25.0 | 166.67 | ..... | |
| *Ellenville* | 3,000 | 4 | 16.00 | 1 | 25.0 | ..... | ..... | |
| Marbletown | 3,689 | 2 | 8.00 | 1 | 50.0 | ..... | ..... | |
| Rosendale | 6,125 | 10 | 19.60 | 2 | 20.0 | ..... | ..... | |
| Esopus | 5,035 | 7 | 16.80 | 1 | 14.2 | ..... | ..... | |
| *Saugerties* | 4,237 | 4 | 12.00 | 0 | ..... | ..... | ..... | |
| POUGHKEEPSIE | 23,200 | 58 | 29.98 | 10 | 17.2 | 241.38 | ..... | |
| *Fishkill* | 3,617 | 10 | 33.15 | 3 | 30.0 | ..... | ..... | |
| *Wappinger Falls* | 3,718 | 11 | ..... | 2 | 18.2 | 90.90 | ..... | |
| NEWBURGH | 24,536 | 37 | 18.13 | 8 | 21.6 | 108.10 | ..... | |
| *Port Jervis* | 9,327 | 19 | 24.32 | 8 | 42.1 | 263.15 | ..... | |
| MIDDLETOWN | 11,612 | 22 | 22.20 | 8 | 353.53 | 45.45 | ..... | |

## YORK STATE BOARD OF HEALTH.

*districts, cities and towns, during January,* 1893.

**Roman type.** **For boundaries of *Sanitary Districts* see Annual Summary.]**

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | 15 | 118 | 47 | 35 | 73 | 369 | 81 | 1512 | 706 | 76 | 317 | 381 | 449 | 612 | 120 | 202 | 139 | 917 |
| 7 | 3 | 58 | 38 | 19 | 39 | 239 | 60 | 868 | 412 | 48 | 194 | 232 | 253 | 306 | 63 | 151 | 54 | 638 |
| 15 | 1 | 55 | 7 | 14 | 27 | 96 | 13 | 489 | 183 | 22 | 96 | 103 | 109 | 215 | 35 | 28 | 33 | 213 |
| ... | ... | ... | ... | ... | ... | 1 | 1 | 2 | 2 | ... | ... | ... | 1 | 1 | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 4 | ... | ... | 1 | 3 | 2 | 1 | 2 | 2 | ... |
| ... | 4 | 1 | ... | ... | ... | 3 | ... | 21 | 8 | ... | ... | 1 | 2 | 6 | 1 | 2 | 4 | 7 |
| ... | ... | 2 | ... | ... | 1 | 2 | ... | 8 | 8 | 1 | 2 | 4 | 2 | 3 | ... | 1 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 7 | 6 | ... | 1 | 1 | 4 | ... | 1 | 1 | 1 | 4 |
| 1 | ... | ... | ... | ... | ... | ... | ... | 5 | ... | ... | ... | 4 | 1 | 1 | ... | ... | 6 | ... |
| ... | ... | ... | ... | ... | ... | 3 | 1 | 1 | 2 | ... | 2 | 1 | 2 | 2 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 10 | 5 | ... | 2 | 5 | ... | 4 | 1 | ... | ... | 2 |
| ... | ... | ... | ... | ... | ... | 2 | ... | 6 | 3 | ... | 2 | 3 | 1 | 3 | 1 | ... | 1 | 3 |
| 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | ... | 1 | ... | 1 | ... | ... | 3 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 2 | ... | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | 1 | 1 | 2 | 3 | ... | ... | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | 1 | ... | 1 | ... | 1 | ... | 2 | 2 |
| ... | ... | ... | ... | ... | 1 | 3 | ... | 8 | 5 | ... | ... | 4 | 5 | 6 | 3 | 3 | 1 | ... |
| ... | ... | ... | ... | ... | 1 | 1 | ... | 9 | 4 | ... | ... | 1 | 4 | 5 | 3 | 1 | 1 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | 2 | 1 | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | 3 | ... | ... | ... | ... | 2 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 13 | 8 | ... | 2 | 2 | 9 | 8 | 1 | 1 | 1 | 4 |
| ... | ... | ... | ... | ... | ... | ... | ... | 5 | 3 | ... | 2 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | 3 | 3 | ... | 5 | 3 | ... | ... | 1 | 1 | 2 | ... | ... | 1 | 1 |
| ... | ... | ... | ... | 1 | ... | 2 | ... | 9 | 3 | 1 | ... | 4 | 5 | 4 | 1 | ... | 3 | ... |
| ... | ... | ... | 2 | ... | ... | 2 | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 |
| ... | ... | 1 | ... | ... | ... | ... | ... | 2 | 3 | ... | ... | ... | 1 | 1 | ... | 2 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 1 | 1 | 3 | ... | ... | 1 | 2 |
| ... | ... | ... | ... | ... | ... | 3 | ... | 1 | 2 | ... | 3 | ... | 2 | 1 | ... | 1 | ... | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | 1 |
| 2 | 7 | 1 | ... | 1 | 1 | 6 | 4 | 27 | 35 | ... | 8 | 8 | 28 | 31 | 8 | 8 | 21 | 21 |
| 2 | ... | 43 | 10 | 2 | 2 | 78 | 26 | 211 | 115 | 13 | 63 | 46 | 109 | 139 | 43 | 36 | 67 | 84 |
| ... | ... | 10 | ... | 1 | ... | 7 | 6 | 60 | 22 | 4 | 10 | 8 | 18 | 32 | 13 | 8 | 8 | 20 |
| ... | ... | ... | ... | ... | ... | 3 | 5 | 2 | 2 | ... | 2 | ... | 1 | 6 | 1 | ... | ... | 2 |
| ... | ... | 9 | 1 | ... | ... | 17 | ... | 24 | 11 | 2 | 10 | 9 | 13 | 14 | 5 | 2 | 10 | 9 |
| ... | ... | 6 | ... | ... | ... | 4 | 1 | 3 | 1 | ... | 1 | 1 | ... | 4 | 1 | ... | 1 | 1 |
| ... | ... | ... | ... | ... | .. | 3 | 1 | 3 | 1 | ... | ... | ... | 1 | 2 | ... | ... | ... | 1 |
| ... | ... | 1 | ... | ... | ... | 1 | ... | 4 | ... | 1 | ... | ... | ... | 1 | ... | ... | 3 | ... |
| ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 2 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | ... | 2 | ... | 2 | 3 | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 3 | 2 | 7 | ... | ... | ... | ... | 5 | 1 | 1 | ... | ... | 1 |
| ... | ... | 1 | ... | ... | ... | 2 | 2 | 3 | 3 | ... | 3 | 4 | 1 | ... | 2 | ... | 2 | 2 |
| ... | ... | ... | ... | ... | .. | 2 | ... | 7 | 2 | 1 | 1 | ... | 3 | 2 | ... | ... | 2 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 3 | 1 | ... | ... | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | ... | 2 | ... | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| ... | ... | 7 | 2 | ... | ... | ... | 1 | 10 | 7 | ... | 4 | ... | 4 | 7 | 3 | 3 | 5 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 5 | ... | ... | ... | ... | ... | ... | ... | 3 | ... | 2 |
| 1 | ... | ... | ... | ... | ... | ... | ... | 3 | 2 | ... | ... | ... | 1 | 2 | ... | ... | ... | 2 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 14 | 5 | 1 | 2 | 3 | 3 | 2 | ... | ... | 1 | 2 |
| ... | ... | ... | ... | ... | ... | 4 | 1 | 1 | 4 | ... | 2 | ... | 2 | 2 | ... | ... | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | 2 | ... | 2 | 7 | ... | 2 | ... | 3 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| HUDSON VALLEY DIST.—(*Cont'd*): | | | | | | | | |
| Warwick | 6,000 | 6 | 12.00 | 0 | .... | .... | .... | .... |
| Goshen | 4,646 | 8 | 20.64 | 1 | 12.5 | ..... | .... | .... |
| Montgomery | 5,259 | 12 | 27.36 | 1 | 8.3 | 83.33 | .... | .... |
| Haverstraw | 7,714 | 4 | .... | 0 | .... | .... | .... | .... |
| *Nyack* | 5,603 | 9 | 19.26 | 3 | 33.3 | 111.11 | .... | .... |
| Ramapo | 6,600 | 8 | 15.00 | 3 | 37.5 | 125.00 | .... | .... |
| Rest of District | ..... | 367 | .... | 58 | 16.0 | 170.85 | 1 | 11 |
| ADIRONDACK & NORTH'N DIST.: | | | | | | | | |
| Totals | ..... | 372 | ..... | 61 | 16.4 | 123.60 | 2 | 13 |
| WATERTOWN | 16,982 | 19 | 14.44 | 6 | 31.0 | 152.85 | .... | .... |
| Ellisburgh | 4,223 | 1 | .... | 0 | .... | .... | .... | .... |
| Cape Vincent | 3,000 | 7 | 28.00 | 1 | 14.2 | ..... | .... | .... |
| Clayton | 4,250 | 4 | 11.00 | 0 | .... | .... | .... | .... |
| OGDENSBURGH | 11,959 | 21 | 21.22 | 6 | 28.6 | 47 62 | .... | .... |
| *Potsdam* | 4,000 | 8 | 24.00 | 3 | 37.5 | ..... | .... | .... |
| Canton | 6,013 | 2 | ..... | 0 | .... | .... | .... | .... |
| *Malone* | 5,000 | 14 | 33.60 | 5 | 35.8 | 142.85 | .... | .... |
| *Glens Falls* | 9,509 | 16 | 20.16 | 2 | 12.5 | 125.00 | .... | 1 |
| *Whitehall* | 4,434 | 8 | 21.68 | 1 | 12.5 | 125.00 | .... | .... |
| Fort Edward | 4,382 | 9 | 24.57 | 3 | 22.2 | 111.11 | .... | .... |
| Kingsbury | 5,112 | 7 | 16.40 | 2 | 28.5 | .... | .... | .... |
| Granville | 5,281 | 4 | 10.00 | 0 | .... | .... | .... | .... |
| Salem | 3,167 | 5 | 19.00 | 0 | .... | 200.00 | .... | .... |
| Greenwich | 4,481 | 13 | 34.23 | 2 | 15.4 | 153.50 | .... | 1 |
| Rest of District | ..... | 234 | ..... | 30 | 13.0 | 139.13 | 2 | 8 |
| MOHAWK VALLEY DISTRICT: | | | | | | | | |
| Totals | ..... | 474 | ..... | 90 | 18.9 | 116.00 | 1 | 14 |
| SCHENECTADY | 22,858 | 42 | 22.00 | 18 | 42.9 | 285.67 | .... | 6 |
| Cobleskill | 3,436 | 5 | 17.50 | 3 | 60.0 | ..... | .... | .... |
| AMSTERDAM | 18,542 | 24 | 15.52 | 3 | 12.5 | 208.33 | .... | .... |
| *Fort Plain* | 3,000 | 7 | 28.00 | 2 | 28.5 | .... | .... | .... |
| *Johnstown* | 7,708 | 8 | 12.32 | 3 | 37.5 | 250.00 | .... | .... |
| GLOVERSVILLE | 14,694 | 15 | 12.24 | 3 | 20.0 | 133.33 | .... | 1 |
| *Little Falls* | 8,783 | 8 | 10.00 | 1 | 12.5 | 125.00 | .... | .... |
| *Herkimer* | 3,000 | 4 | 16.00 | 1 | 25.0 | ..... | .... | .... |
| *Ilion* | 4,057 | 5 | 15.00 | 3 | 60.0 | 600.00 | .... | 1 |
| UTICA | 46,608 | 74 | 19.12 | 12 | 16.2 | 81.20 | .... | 1 |
| Whitestown | 5,225 | 9 | 20.70 | 2 | 22.2 | ..... | .... | .... |
| ROME | 13,638 | 18 | 15.84 | 4 | 22.2 | 166.67 | .... | 1 |
| Boonville | 8,512 | 5 | 17.00 | 0 | .... | ..... | .... | .... |
| Camden | 3,675 | 12 | 39.16 | 5 | 41.6 | 250.00 | .... | .... |
| Waterford | 5,522 | 10 | 21.70 | 3 | 30.0 | .... | .... | .... |
| *Ballston Spa* | 3,527 | 3 | 10.00 | 0 | .... | .... | .... | .... |
| *Saratoga Springs* | 12,000 | 23 | 23.00 | 4 | 15.2 | ..... | .... | .... |
| Rest of District | ..... | 202 | ..... | 23 | 11.5 | 85.00 | 1 | 4 |
| SOUTHERN TIER DISTRICT: | | | | | | | | |
| Totals | ..... | 427 | ..... | 74 | 17.3 | 110.00 | 4 | 7 |
| BINGHAMTON | 34,514 | 43 | 15.00 | 13 | 30.2 | 93 00 | .... | .... |
| *Owego* | 6,000 | 9 | 18.00 | 0 | .... | ..... | .... | .... |
| Candor | 3,525 | 8 | 27.20 | 0 | .... | .... | .... | .... |
| *Waverly* | 4,123 | 6 | 17.16 | 0 | .... | 166.67 | .... | .... |
| ELMIRA | 30,000 | 65 | 26.00 | 13 | 20.0 | 123.10 | 1 | 1 |
| Horseheads | 3,319 | 4 | 14.44 | 0 | .... | ..... | .... | .... |
| HORNELLSVILLE | 11,898 | 19 | 19 20 | 5 | 26.3 | 105.32 | .... | 1 |
| *Bath* | 3,261 | 3 | 11.20 | 0 | .... | ..... | .... | .... |

FOR JANUARY — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | .... | .... | .... | .... | ... | .... | 1 | 1 | .... | .. | 1 | 1 | 1 | .... | .... | 1 | ... |
| ... | .... | .... | .... | .... | .... | .... | ... | 3 | .... | .... | 1 | .... | 3 | .... | .... | .... | 1 | ... |
| ... | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | .... | .. | .... | 1 | 3 | .... | 2 | 1 | ... |
| ... | .... | .... | .... | .... | .... | .... | .... | .. | 2 | .... | ... | .... | .... | 3 | .... | .... | .... | ... |
| ... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | 1 | 1 | .... | 3 | .... | 1 | .... | 1 |
| 1 | .... | 9 | 6 | .... | 2 | 28 | 4 | 59 | 41 | 4 | 20 | 16 | 42 | 39 | 17 | 13 | 27 | 27 |
| ... | ... | 7 | 2 | 1 | ... | 17 | 7 | 69 | 38 | 6 | 20 | 24 | 37 | 39 | 9 | 7 | 46 | 31 |
| ... | .... | .... | .... | .... | .... | 3 | .. | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 1 | .... | 1 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .. | 1 | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .. | .... | .. | 2 | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .. | 1 | 2 | .... | .. | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | 1 | 6 | 2 | 2 | .... | 3 | 1 | .... | 1 | 1 | .... | 4 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | .. | .... | 1 | .... | 2 | .... | .... | 1 | . |
| ... | .... | .... | .... | .... | .... | 1 | 1 | 4 | 2 | .... | .... | .... | .... | 1 | 1 | 1 | 1 | .... |
| .. | .... | .... | .... | .... | .... | .... | 1 | 3 | 2 | .... | .... | 2 | 2 | 2 | .... | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | 1 | 3 | 1 | .... | .... | 1 | 1 | .... | .... | 1 | .... | .. |
| ... | .... | 1 | .... | .... | .... | .... | .... | .. | .... | .... | 1 | 1 | 1 | .... | 2 | .... | 2 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | 1 | .. | 1 | 1 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .. | .... | 2 | .... | .... | .... | .... |
| ... | .... | .. | .. | .... | .... | 1 | .... | 1 | .... | .... | .... | .. | 1 | 1 | .... | .... | 1 | .... |
| ... | .... | .... | .... | 1 | .... | .... | .... | 3 | 2 | .... | .... | .. | 3 | 1 | .... | 1 | .... | 1 |
| ... | ... | 6 | 2 | .... | .... | 12 | 3 | 41 | 26 | 3 | 16 | 12 | 20 | 22 | 4 | 3 | 36 | 18 |
| ... | .... | 6 | .... | 2 | 2 | 26 | 4 | 82 | 43 | 4 | 17 | 41 | 47 | 61 | 18 | 18 | 54 | 34 |
| ... | .... | .... | .... | .... | .... | 3 | 3 | 9 | 4 | .... | 1 | 1 | 3 | 5 | 1 | 1 | 2 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | .... | .. | 1 | .... | .... | .... | .... | .... | .... |
| ... | .... | 1 | .... | .... | .... | 4 | .... | 5 | .... | .... | .. | 1 | 4 | 2 | 3 | 2 | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | 1 | .... | .... | 1 | .... | 1 | 1 | .... |
| ... | .... | .... | .... | .... | 1 | 1 | .... | 2 | 1 | .... | .. | .... | 1 | 1 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | 1 | 3 | 4 | .... | 1 | 2 | 1 | .... | .... | 1 | .... | 1 |
| ... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | .. | .. | 4 | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | .. | .... | .... | 1 | .... | . | .. |
| ... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | 5 | .... | 11 | 8 | .... | 1 | 2 | 7 | 15 | 2 | 1 | 8 | 6 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | 1 | 1 | 1 | .... | .... | 3 | 1 |
| ... | .... | 1 | .... | .... | .... | 1 | .... | 4 | .... | .... | .... | 3 | 2 | 2 | .... | 3 | 2 | .. |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | .... |
| ... | .... | 3 | .... | .... | .... | .... | .... | 3 | 1 | .... | .... | .... | 2 | .... | .... | .... | 2 | 1 |
| ... | .... | .. | .. | .... | .... | .... | .... | 2 | .... | .. | 1 | 1 | 1 | 1 | 1 | .... | 2 | 1 |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... |
| ... | .... | 1 | .... | 2 | .... | 9 | .... | 5 | 3 | .... | 2 | 1 | 2 | 3 | 1 | 2 | 2 | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | 29 | 17 | 4 | 8 | 22 | 22 | 23 | 7 | 6 | 30 | 17 |
| 1 | .... | 7 | 4 | 2 | 1 | 18 | 3 | 81 | 24 | 6 | 30 | 18 | 57 | 52 | 11 | 20 | 45 | 36 |
| ... | .... | 1 | 1 | .... | 1 | .. | 1 | 9 | 3 | 2 | 7 | 1 | 5 | 5 | .... | 2 | 1 | 4 |
| ... | ... | .... | .... | .... | .... | .... | ... | 1 | 1 | .. | .... | 1 | 3 | 2 | ... | .. | .. | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 3 | 1 | ... | 1 | 2 | ... |
| ... | .... | .... | .... | 1 | .... | .... | .... | 2 | .. | ... | .... | .... | 2 | 1 | .... | .. | .. | .... |
| ... | ... | 2 | 1 | ... | .... | 3 | .... | 14 | 6 | .... | 1 | 5 | 2 | 11 | 3 | 4 | 8 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | 1 | .... | .. | 1 | .... | .. | 2 | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | 5 | 2 | 2 | 2 | .... | 3 | 1 | .... | 1 | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | ... | .... | 1 | .... | .... | .. | .... | .... | .... | 1 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| **SOUTHERN TIER DIST.—(*Cont'd*):** | | | | | | | | |
| CORNING | 10,025 | 13 | 15.60 | 3 | 23.8 | 333.33 | ... | ... |
| Wellsville | 5,033 | 8 | 19.00 | 1 | 12.5 | 125.00 | ... | ... |
| *Olean* | 7,358 | 11 | 17.93 | 5 | 45.4 | 90.91 | ... | ... |
| *Salamanca* | 3,700 | 2 | 8.00 | 0 | ... | ... | ... | ... |
| JAMESTOWN | 18,627 | 36 | 23.18 | 10 | 27.7 | 388.88 | 1 | 1 |
| *Westfield* | 3,000 | 3 | 12.00 | 0 | ... | ... | ... | ... |
| *Fredonia* | 3,400 | 5 | 17.65 | 1 | 20.0 | 200.00 | ... | ... |
| Rest of District | ..... | 192 | ..... | 23 | 12.0 | 63.15 | 2 | 1 |
| **EAST CENTRAL DISTRICT:** | | | | | | | | |
| Totals | ..... | 454 | ..... | 77 | 17.0 | 121.12 | ... | 4 |
| SYRACUSE | 91,944 | 145 | 17.62 | 34 | 23.5 | 200.00 | ... | 1 |
| *Baldwinsville* | 3,040 | 3 | 12.00 | 0 | ... | ... | ... | ... |
| *Cortland* | 8,590 | 5 | ..... | 1 | 20.0 | 400.00 | ... | ... |
| *Homer* | 3,000 | 3 | 12.00 | 1 | 33.3 | ... | ... | ... |
| Hamilton | 4,110 | 10 | 29.20 | 1 | 10.0 | 100.00 | ... | ... |
| Cazenovia | 3,893 | 8 | 25.20 | 0 | ... | ... | ... | ... |
| Brookfield | 3,235 | 4 | 14.56 | 0 | ... | 250.00 | ... | ... |
| *Norwich* | 5,212 | 10 | 23.10 | 1 | 10.0 | 200.00 | ... | ... |
| *Oneonta* | 6,776 | 8 | 16.30 | 3 | 37.5 | 250.00 | ... | ... |
| Worcester | 2,670 | 3 | 13.00 | 0 | ... | ... | ... | ... |
| *Cooperstown* | 3,000 | 2 | 8.00 | 0 | ... | ... | ... | ... |
| Walton | 4,911 | 4 | 10.00 | 1 | 25.0 | ... | ... | ... |
| Delhi | 3,000 | 6 | 24.00 | 0 | ... | ... | ... | ... |
| Liberty | 3,471 | 1 | ..... | 0 | ... | ... | ... | ... |
| Rest of District | ..... | 242 | ..... | 35 | 14.5 | 75.00 | ... | 4 |
| **WEST CENTRAL DISTRICT:** | | | | | | | | |
| Totals | ..... | 345 | ..... | 50 | 14.3 | 107.00 | 3 | 4 |
| AUBURN | 24,737 | 53 | 25.70 | 7 | 15.1 | 226.41 | 1 | 1 |
| ITHACA | 13,460 | 16 | 15.00 | 3 | 18.7 | 312.50 | ... | 1 |
| Hector | 4,822 | 4 | 10.00 | 1 | 25.0 | 250.00 | 1 | ... |
| *Waterloo* | 4,350 | 7 | 19.32 | 1 | 14.3 | ..... | ... | ... |
| *Seneca Falls* | 5,116 | 12 | 23.50 | 1 | 8.34 | ..... | ... | ... |
| *Geneva* | 7,557 | 16 | 25.28 | 4 | 25.0 | 250.00 | ... | 1 |
| *Canandaigua* | 5,868 | 10 | 20.44 | 0 | ... | ... | ... | ... |
| Manchester | 4,181 | 9 | 25.65 | 2 | 22.2 | 111.11 | ... | ... |
| Phelps | 5,150 | 5 | 12.00 | 0 | ... | ..... | ... | ... |
| *Penn Yan* | 4,254 | 1 | ..... | 0 | ... | ... | ... | ... |
| *Batavia* | 7,221 | 12 | ..... | 3 | ... | ... | ... | ... |
| *Dansville* | 3,758 | 7 | 22.35 | 1 | 14.2 | 142.85 | ... | ... |
| Warsaw | 4,700 | 4 | 10.20 | 1 | 25.0 | 250.00 | ... | ... |
| Rest of District | ..... | 189 | ..... | 25 | 13.0 | 58.85 | 1 | 1 |
| **LAKE ONTARIO AND WEST. DIST.:** | | | | | | | | |
| Totals | ..... | 1,011 | ..... | 340 | 33.4 | 165.17 | 3 | 17 |
| BUFFALO | 290,000 | 446 | 18.46 | 196 | 42.2 | 139.00 | 3 | 4 |
| TONAWANDA | 7,145 | 14 | 23.52 | 7 | 50.0 | 428.50 | ... | ... |
| Amherst | 3,960 | 5 | 18.50 | 1 | 20.0 | 200.00 | ... | ... |
| *North Tonawanda* | 4,806 | 15 | 37.50 | 5 | 33.3 | 333.33 | ... | 1 |
| LOCKPORT | 16,088 | 8 | ..... | 1 | 12.5 | ..... | ... | 1 |
| *Medina* | 4,500 | 9 | 24.00 | 1 | 11.1 | 111.11 | ... | ... |
| *Albion* | 4,536 | 3 | 8.00 | 2 | 66.6 | 333.33 | ... | ... |
| ROCHESTER | 144,834 | 231 | 19.14 | 76 | 33.0 | 255.54 | ... | 6 |
| Palmyra | 4,173 | 7 | 20.80 | 0 | ... | ... | ... | ... |
| *Newark* | 3,000 | 3 | 12.50 | 1 | 33.3 | ... | ... | ... |
| Lyons | 6,127 | 7 | 13.65 | 1 | 14.2 | 142.85 | ... | 1 |
| *Clyde* | 3,000 | 5 | 20.00 | 1 | 20.0 | ..... | ... | ... |
| OSWEGO | 21,966 | 24 | 13.08 | 8 | 33.3 | 83.33 | ... | ... |
| *Fulton* | 4,214 | 8 | 22.80 | 1 | 12.5 | ... | ... | ... |

FOR JANUARY — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .. | ... | 1 | ... | ... | ... | 2 | ... | 6 | .... | .... | .... | ... | 2 | .. | .. | 1 | ... | 1 |
| .. | ... | .. | ... | 1 | ... | ... | .... | 2 | .... | .... | 1 | ... | 3 | ... | .. | ... | ... | 1 |
| ... | ... | 1 | ... | ... | ... | ... | .... | ... | 1 | .... | 1 | ... | ... | 4 | 1 | .... | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | ... | 1 | 1 | .. | ... | ... | ... |
| 1 | ... | ... | .... | ... | ... | 8 | 1 | 6 | 3 | .... | 4 | 1 | 1 | 2 | .... | 2 | 1 | 2 |
| ... | ... | .... | .... | ... | ... | .... | .... | 1 | .... | ... | ... | ... | 2 | .... | .... | .. | .. | .... |
| ... | ... | .. | 1 | ... | .... | .... | .... | ... | .... | ... | 1 | ... | .. | .. | .... | 1 | .... | .... |
| .. | .... | 2 | 1 | .... | .... | 4 | 1 | 33 | 8 | 2 | 11 | 10 | 30 | 23 | 7 | 8 | 29 | 19 |
| 2 | ... | 4 | 19 | 2 | 5 | 14 | 3 | 70 | 40 | 3 | 31 | 24 | 54 | 59 | 15 | 11 | 54 | 38 |
| ... | ... | .... | 15 | .. | 2 | 10 | ... | 22 | 17 | 1 | 11 | 10 | 9 | 13 | 4 | 2 | 11 | 16 |
| ... | ... | .... | ... | .... | .... | .... | .... | ... | ... | ... | .. | ... | .... | 2 | .. | .... | 1 | .... |
| 1 | ... | .... | . | .... | .... | 1 | .... | ... | .... | .... | .... | 1 | .. | 1 | .... | .... | .... | 1 |
| ... | ... | .... | ... | .... | .... | .... | .... | ... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | 1 |
| .. | .. | 1 | .... | .... | .... | .... | .... | 2 | 2 | .... | .... | .... | 2 | ... | .. | 1 | 1 | 1 |
| ... | .. | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 1 | .... | .. | .... | 4 | 1 |
| ... | .. | .... | .... | .... | 1 | 1 | .... | 1 | 2 | .... | .... | .... | 2 | 2 | .... | .... | .... | 1 |
| ... | .... | 1 | .... | 1 | .. | .... | .... | 1 | 1 | .. | 1 | 1 | .... | 1 | .... | .... | .... | 2 |
| ... | .. | .. | .... | .. | .... | .... | .... | .... | .... | .... | .. | .. | .... | 1 | .... | 1 | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 2 | .... | .... | 1 | .... |
| 1 | .... | 2 | 4 | 1 | 2 | 2 | 2 | 41 | 16 | 2 | 18 | 11 | 37 | 35 | 10 | 7 | 34 | 13 |
| 1 | .... | 6 | 1 | 3 | .... | 12 | 6 | 52 | 39 | 4 | 25 | 15 | 35 | 45 | 18 | 9 | 38 | 29 |
| 1 | ... | 2 | 1 | 1 | .... | 3 | 2 | 4 | 6 | 2 | 2 | 3 | 4 | 7 | 4 | 1 | 3 | 5 |
| ... | .. | .... | .. | .... | .... | 2 | 1 | 3 | 1 | .. | .... | .. | .... | 3 | .. | 2 | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | 1 | 1 | .. | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | 1 | .... | 1 | 4 | 1 | .... | .... | 1 | 1 |
| ... | .... | .... | .... | 1 | .... | 2 | .... | 1 | .... | 1 | 3 | 2 | 2 | 1 | .... | 1 | .. | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 3 | .... | 2 | .... | 1 | 1 | .... | 1 | .. | .... |
| ... | .... | 1 | .... | .... | .... | .... | .... | .... | 4 | .... | 1 | 1 | .. | .. | 1 | .... | .. | 1 |
| ... | .... | .. | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | .... | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... |
| ... | .... | 1 | .... | .... | .... | .... | .... | 1 | 2 | .... | 3 | .... | .... | .... | 1 | .... | 2 | 4 |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | 2 | 1 | .... | .... | .... | .... |
| ... | .. | 2 | .... | 1 | .. | 3 | 3 | 38 | 20 | .... | 12 | 5 | 18 | 28 | 11 | 4 | 27 | 14 |
| 2 | .... | 46 | 3 | 5 | 11 | 79 | 11 | 186 | 94 | 24 | 65 | 58 | 78 | 121 | 26 | 36 | 72 | 74 |
| 1 | ... | 19 | 1 | 2 | 7 | 25 | 2 | 105 | 44 | 16 | 37 | 21 | 25 | 53 | 11 | 16 | 20 | 34 |
| 1 | ... | .... | .... | .... | .... | 5 | .... | 3 | 1 | .. | 1 | .... | .... | 1 | .... | 1 | 1 | .... |
| ... | ... | .... | .... | .... | .... | .... | 1 | .... | .. | 1 | .... | .... | .... | 1 | .... | .. | 2 | .... |
| ... | ... | 2 | .... | .... | .... | 1 | 1 | 2 | .... | .... | 1 | .... | 1 | .... | .... | 1 | 2 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | 1 | .... | 1 | 3 | .... |
| ... | .. | .... | .... | .... | .... | .... | 1 | .... | 4 | 1 | .. | 1 | .... | .... | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 |
| ... | .... | 14 | .... | 1 | 1 | 33 | 4 | 31 | 23 | 3 | 7 | 19 | 16 | 27 | 7 | 5 | 12 | 22 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 | 2 | .. | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .. | .. | .... | 1 | .. | 1 | .... | .... | .. | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | 1 | 1 | 2 | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 | .... | .... | 1 | 1 |
| ... | .... | .... | 1 | .... | 1 | .... | .... | 2 | 1 | .... | 2 | 2 | 4 | 3 | .... | 2 | 4 | 2 |
| .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .... | 1 | 1 | .... | 1 | 1 | 1 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONTARIO AND WESTERN DISTRICT — (*Continued*). | | | | | | | | |
| Richland | 3,637 | 2 | 8.00 | 1 | 50.0 | ..... | .... | ... |
| Rest of District | ..... | 224 | ..... | 38 | 17.0 | 160.72 | ... | 4 |
| Totals for the State | ..... | 10,490 | ..... | 3,056 | 29.1 | 137.00 | 44 | 120 |
| Average for January for past 8 years. | ..... | 9,244 | ..... | 2,676 | 27 9 | 140.00 | 42 | 94 |

REMARKS.—The average daily death rate during January was 338, which is 30 more than in prevalence of grippe; deducting this and making allowance for a normal increase, the mortality higher than in December, the only increase being in scarlet fever, which shows a continued rise; There is a slight increase only in deaths from diarrhœal diseases, although there has been reported diseases is excessive, by not less than 400, there having been 2,300 deaths attributed to this cause. is a large increase; this was noted a year ago. Also from unclassified causes, which includes been returned from grippe, and it would appear that it has caused about 600 deaths, and has been old age. There were 61 deaths from typhus fever in New York. From small pox there were 15 cases originating there developed early in the month in Waterloo. Reports from six large cities was 19.00. In the cities there were 142 deaths from zymotic diseases per 1,000 deaths from all with the country, was about 3 to 2 in the same numbers of inhabitants.

FOR JANUARY — (*Concluded*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | 2 | ... | ... | ... | 1 37 | 1 15 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | 11 | 1 | 2 | 2 | 14 | 2 | | | 2 | 17 | 12 | 28 | 28 | 8 | 9 | 23 | 9 |
| 34 | 15 | 237 | 86 | 52 | 94 | 613 | 141 | 2,293 | 1,099 | 136 | 568 | 607 | 866 | 1,128 | 260 | 339 | 515 | 1243 |
| 55 | 8 | 180 | 128 | 34 | 90 | 570 | 91 | 2,020 | 1,192 | 93 | 461 | 348 | 608 | 940 | 207 | 270 | 669 | 1058 |

December. The number of deaths is far below that of January, 1892, because of the then existing is excessive for January by between 600 and 700 deaths. The zymotic mortality was a little there were 237 deaths from it; its prevalence continues chiefly in the eastern part of the State the extended prevalence of so-called winter diarrhœa. The mortality from acute respiratory Other local diseases show, however, little variation from the normal average. From old age there certain chronic wasting disorders, there is an increase. A considerable number of deaths have the cause of the increase in the mortality from respiratory diseases, some diathetic diseases and deaths, all occurring in the maritime district, outside of which it does not exist, although mild of 6,550 deaths gives a death rate of 22.70 per 1,000 population; that of the rural parts of the State causes, and in the country 112. The proportion of diarrhœal mortality in the cities, as compared

MONTHLY BULLETIN OF THE N

*Abstract of reports of deaths and causes in the followi*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Ro

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. |
|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | | 5,289 | | 1,802 | 34.0 | 145.60 | 28 |
| NEW YORK CITY | 1,860,803 | 3,105 | 21.72 | 1,050 | 33.8 | 164.20 | 17 |
| BROOKLYN | 978,394 | 1,527 | 20.34 | 552 | 36.1 | 147.37 | 4 |
| Gravesend | 8,418 | 14 | 20.00 | 6 | 42.8 | 285.70 | ... |
| New Utrecht | 9,129 | 16 | 21.00 | 9 | 56.2 | 125.00 | ... |
| LONG ISLAND CITY | 35,745 | 52 | 17.45 | 17 | 32.7 | 173.00 | 1 |
| Newtown | 19,776 | 43 | 25.80 | 22 | 51.1 | 93.00 | 1 |
| Oyster Bay | 14,887 | 21 | 16.80 | 4 | 19.0 | ..... | ... |
| Hempstead | 23,991 | 17 | ..... | 3 | 17.0 | ..... | ... |
| North Hempstead | 8,736 | 10 | 13.80 | 4 | 40.0 | ..... | ... |
| Jamaica | 17,654 | 26 | 15.00 | 12 | 54.5 | 45.46 | ... |
| Flushing | 20,816 | 25 | ..... | 7 | 28.0 | 160.00 | ... |
| Southold | 7,671 | 5 | ..... | 1 | 20.0 | 200.00 | ... |
| *Sag Harbor* | 3,000 | 4 | 16.00 | 0 | .. | ..... | ... |
| Huntington | 8,253 | 17 | 24.82 | 5 | 29.2 | 170 00 | ... |
| Brookhaven | 13,493 | 25 | 22.00 | 7 | 28 0 | ..... | ... |
| *New Brighton* | 16,423 | 26 | 19.00 | 9 | 34.6 | 115.20 | ... |
| *Edgewater* | 14,265 | 21 | 16.64 | 8 | 38.1 | ... | ... |
| *Port Richmond* | 6,390 | 6 | 12.00 | 3 | 50.0 | 166 67 | ... |
| Westfield | 8,648 | 9 | 12.51 | 2 | 22.2 | 111.11 | ... |
| YONKERS | 34,000 | 36 | 12.75 | 8 | 22 2 | 166.67 | ... |
| Westchester | 8,226 | 13 | 18.72 | 3 | 23.1 | 77.00 | ... |
| Greenburgh | 11,630 | 5 | ..... | 2 | 40.0 | ..... | ... |
| MOUNT VERNON | 10,830 | 24 | 26.40 | 6 | 25.0 | 125.00 | ... |
| *Port Chester* | 5,274 | 9 | 19.35 | 4 | 44.4 | 333.33 | ... |
| *Sing Sing* | 9,352 | 8 | ..... | 3 | 37.5 | ..... | ... |
| *New Rochelle* | 8,217 | 5 | ..... | 2 | 40.0 | ..... | ... |
| *Peekskill* | 9,676 | 11 | 13.64 | 1 | 9.1 | 91.90 | ... |
| *White Plains* | 4,042 | 3 | ..... | 0 | ... | ..... | ... |
| Rest of District | ..... | 206 | ..... | 53 | 26.0 | 150.00 | 1 |
| HUDSON VALLEY DISTRICT: Totals | ..... | 1,061 | ..... | 299 | 28.2 | 154.72 | 11 |
| ALBANY | 98,000 | 173 | 20.66 | 60 | 34.7 | 98.25 | 1 |
| COHOES | 23,234 | 54 | 27.75 | 30 | 55.5 | 222 22 | 1 |
| TROY | 64,986 | 128 | 23.60 | 32 | 25.0 | 190.62 | ... |
| *West Troy* | 12,967 | 38 | 35.00 | 16 | 42.1 | 263.15 | ... |
| *Green Island* | 4,463 | 11 | 26 90 | 4 | 36.3 | 90.90 | ... |
| *Lansingburgh* | 10,550 | 25 | 23.42 | 5 | 20.0 | 80.00 | ... |
| *Hoosick Falls* | 7,014 | 20 | 34.20 | 12 | 60.0 | 250.00 | ... |
| *Greenbush* | 7,462 | 8 | 13.20 | 2 | 25.0 | 250.00 | ... |
| Coxsackie | 3,824 | 8 | 25.44 | 2 | 25.0 | 250.00 | ... |
| *Catskill* | 4,920 | 10 | 24.30 | 4 | 40.0 | 500.00 | 2 |
| HUDSON | 9,633 | 20 | 24.80 | 7 | 35.0 | 150 00 | ... |
| KINGSTON | 21,500 | 42 | 23.52 | 17 | 40.5 | 119.00 | 2 |
| *Ellenville* | 3,000 | 3 | 12.00 | 0 | ... | ..... | ... |
| Marbletown | 3,689 | 3 | 10.00 | 0 | ... | ..... | ... |
| Rosendale | 6,125 | 13 | 26.00 | 4 | 30.7 | ..... | ... |
| Esopus | 5,035 | 9 | 21.30 | 3 | 33.3 | 222.22 | ... |
| *Saugerties* | 4,237 | 8 | 22.65 | 4 | 50.0 | ..... | ... |
| POUGHKEEPSIE | 23,200 | 60 | 31.00 | 14 | 23 3 | 233.33 | 1 |
| *Fishkill* | 3,617 | 3 | 10.00 | 0 | ... | ..... | ... |
| *Wappinger Falls* | 3,718 | 4 | 12.88 | 1 | 25.0 | ..... | ... |
| NEWBURGH | 24,536 | 33 | 16.17 | 7 | 21.3 | 151.50 | ... |
| *Port Jervis* | 9,327 | 20 | 25.60 | 7 | 35.0 | 100.00 | ... |
| MIDDLETOWN | 11,612 | 15 | 15.00 | 3 | 20.0 | 66.66 | ... |

RK STATE BOARD OF HEALTH.

*tricts, cities and towns during February*, 1893.

For boundaries of *Sanitary Districts* see Annual Summary].

| Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 124 | 35 | 38 | 103 | 268 | 78 | 1,194 | 597 | 53 | 306 | 338 | 384 | 580 | 109 | 150 | 108 | 709 |
| 8 | 65 | 26 | 23 | 61 | 184 | 59 | 687 | 359 | 31 | 179 | 192 | 207 | 278 | 76 | 107 | 40 | 481 |
| 2 | 44 | 8 | 11 | 36 | 82 | 12 | 373 | 166 | 18 | 89 | 103 | 118 | 205 | 22 | 31 | 22 | 155 |
| 1 | ... | ... | ... | 2 | 1 | ... | 1 | 1 | 1 | 1 | 1 | 2 | 2 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | 1 | 1 | 8 | 1 | ... | 1 | ... | ... | 1 | ... | ... | 2 | 1 |
| 3 | 1 | ... | ... | ... | 2 | 2 | 13 | 5 | 2 | 1 | 6 | 3 | 6 | ... | ... | 1 | 6 |
| ... | ... | ... | ... | 1 | 1 | ... | 15 | 4 | ... | ... | 1 | 2 | 7 | 1 | ... | ... | 9 |
| ... | ... | ... | ... | ... | ... | ... | 2 | 2 | ... | 1 | ... | 3 | 6 | 2 | 1 | 3 | 1 |
| ... | ... | ... | ... | ... | ... | ... | 4 | 2 | ... | 1 | 1 | 1 | 3 | ... | ... | 3 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 2 | 1 | 3 | ... | 1 | ... | ... |
| ... | ... | ... | ... | 1 | ... | ... | 3 | 2 | ... | 2 | 7 | ... | 5 | ... | 1 | 2 | 3 |
| ... | ... | ... | ... | 1 | 3 | ... | 4 | 4 | ... | 1 | 4 | 1 | 6 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | 1 |
| ... | 2 | ... | 1 | ... | ... | ... | 1 | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | 1 | 4 | 1 | ... | 1 | 2 | 1 |
| ... | ... | ... | ... | 1 | 2 | ... | 3 | 2 | ... | ... | 2 | ... | 5 | 1 | 1 | 7 | 5 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 4 | ... | 4 | 5 | 1 | 2 | 2 | 3 |
| ... | ... | ... | ... | ... | 1 | ... | 6 | 3 | ... | 4 | 2 | ... | 2 | ... | ... | 2 | 2 |
| ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 |
| ... | ... | ... | ... | ... | 1 | ... | 1 | 2 | ... | 2 | 1 | ... | 2 | ... | ... | ... | ... |
| ... | 4 | ... | 1 | ... | ... | ... | 9 | 4 | ... | ... | 4 | 5 | 3 | 1 | ... | 3 | 1 |
| ... | ... | ... | ... | ... | 1 | ... | 2 | 7 | 1 | 1 | 1 | 3 | 2 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 3 | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | 1 | 1 | 8 | ... | ... | 1 | 3 | 3 | 2 | ... | 1 | 3 | ... |
| ... | ... | ... | ... | ... | 3 | ... | 2 | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 1 | 1 | 2 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | 1 | ... | 1 |
| ... | 1 | ... | ... | ... | ... | ... | 3 | 2 | ... | ... | 2 | 2 | 1 | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| 9 | 7 | 1 | 2 | ... | 5 | 3 | 38 | 29 | ... | 14 | 3 | 20 | 29 | 5 | 2 | 13 | 23 |
| ... | 30 | 11 | 6 | 3 | 55 | 24 | 208 | 89 | 7 | 76 | 47 | 115 | 119 | 29 | 31 | 89 | 87 |
| ... | ... | ... | 1 | ... | 5 | 5 | 42 | 14 | 2 | 14 | 10 | 19 | 23 | 6 | 6 | 7 | 13 |
| ... | ... | ... | ... | ... | 3 | 7 | 8 | 4 | ... | 9 | 2 | 3 | 5 | ... | 1 | 2 | 8 |
| ... | 4 | ... | ... | 1 | 14 | ... | 30 | 12 | ... | 7 | 6 | 16 | 14 | 5 | 2 | 5 | 7 |
| ... | 5 | ... | ... | ... | 5 | ... | 8 | 3 | ... | ... | 2 | 3 | 3 | 2 | 1 | 4 | 2 |
| ... | ... | ... | ... | ... | ... | 1 | 2 | 2 | ... | 1 | ... | ... | 2 | ... | 1 | 1 | 1 |
| ... | ... | ... | ... | ... | 1 | ... | 7 | 2 | ... | 3 | ... | 2 | 2 | 1 | 1 | 3 | 2 |
| ... | ... | ... | ... | ... | 4 | 1 | 4 | 3 | ... | 2 | ... | 2 | ... | ... | ... | ... | 4 |
| ... | 1 | 1 | ... | ... | ... | 1 | 1 | ... | ... | 1 | ... | 1 | 2 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | 3 | ... | 1 | ... | ... | ... | ... | 4 | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | 1 | 2 | ... | 1 | 2 | 2 | 1 | 3 | ... | 1 | 2 | 2 | 2 |
| ... | 1 | ... | ... | 1 | ... | ... | 14 | 2 | ... | 7 | 1 | 6 | 2 | ... | 1 | 2 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | 4 | 2 | ... | 1 | ... | 1 | 2 | ... | ... | 1 | 2 |
| ... | ... | 2 | ... | ... | ... | ... | 3 | ... | ... | ... | ... | 2 | 1 | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | ... | 1 | 2 | ... | ... | 1 | 1 |
| ... | 4 | ... | 1 | ... | 4 | 2 | 9 | 7 | ... | 3 | 2 | 4 | 7 | 1 | 1 | 4 | 3 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | 2 |
| ... | ... | ... | ... | ... | 4 | ... | 6 | 2 | 1 | 2 | ... | 5 | 3 | 3 | 1 | 5 | ... |
| ... | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | 1 | 1 | 2 | 3 | 1 | 2 | 1 | 3 |
| ... | ... | ... | ... | ... | 1 | ... | 3 | ... | ... | 2 | ... | ... | 6 | 1 | 1 | 1 | ... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. |
|---|---|---|---|---|---|---|---|
| HUDSON VAL. DIST.—(*Cont'd*). | | | | | | | |
| Goshen | 4,646 | 4 | 11.00 | 0 | ... | ... | ... |
| Montgomery | 5,259 | 10 | 22.80 | 3 | 30.0 | ..... | ... |
| Haverstraw | 7,714 | 3 | ..... | 1 | 33.3 | ..... | ... |
| *Nyack* | 5,603 | 7 | 15.00 | 1 | 14.2 | 142.85 | ... |
| Ramapo | 6,600 | 9 | 16.38 | 0 | ... | ..... | ... |
| Rest of District | ..... | 320 | ..... | 60 | 18.7 | 139.28 | 3 |
| ADIRONDACK & NORTH'N DIST.: | | | | | | | |
| Totals | ..... | 391 | ..... | 99 | 26.6 | 97.12 | 3 |
| WATERTOWN | 16,982 | 18 | 12.75 | 11 | 61.1 | 222.22 | ... |
| Ellisburgh | 4,223 | 5 | 14.50 | 1 | 20.0 | ..... | ... |
| Cape Vincent | 3,000 | 1 | .... | 1 | ... | ... | ... |
| Clayton | 4,250 | 9 | 25.00 | 2 | 22.2 | 111.11 | ... |
| OGDENSBURGH | 11,959 | 25 | 25.00 | 11 | 44.0 | 80.00 | ... |
| *Potsdam* | 4,000 | 7 | 21.00 | 0 | .... | ..... | ... |
| Canton | 6,013 | 5 | 10.00 | 0 | .... | ... | ... |
| *Malone* | 5,000 | 7 | 17.00 | 5 | 71.4 | 142.85 | ... |
| *Plattsburgh* | 7,010 | 10 | 17.20 | 6 | 60.0 | 200.00 | 1 |
| *Glens Falls* | 9,509 | 19 | 23.94 | 5 | 26.3 | 263.15 | ... |
| *Whitehall* | 4,434 | 2 | ..... | 2 | .... | 500.00 | ... |
| Fort Edward | 4,382 | 5 | 14.20 | 0 | .... | .... | ... |
| Kingsbury | 5,112 | 3 | ..... | 0 | .... | ..... | ... |
| Granville | 5,281 | 2 | .... | 0 | .... | ..... | ... |
| Salem | 3,167 | 3 | 12.00 | 0 | .... | .... | ... |
| Greenwich | 4,431 | 4 | 11.00 | 2 | 50.0 | .... | ... |
| Rest of District | ..... | 266 | ..... | 53 | 20.8 | 80.00 | 2 |
| MOHAWK VALLEY DISTRICT: | | | | | | | |
| Totals | ..... | 487 | ..... | 111 | 22.8 | 112.90 | 1 |
| SCHENECTADY | 22,858 | 51 | 26.56 | 18 | 36.0 | 260.00 | ... |
| Cobleskill | 3,436 | 5 | 17.50 | 1 | 20.0 | ..... | ... |
| AMSTERDAM | 18,542 | 30 | 19.50 | 10 | 33.3 | 100.00 | ... |
| *Johnstown* | 7,768 | 4 | ..... | 1 | 25.0 | ..... | ... |
| GLOVERSVILLE | 14,694 | 23 | 18.77 | 9 | 39.1 | 130.10 | ... |
| *Little Falls* | 8,783 | 11 | 15.00 | 3 | 27.3 | 9.09 | ... |
| *Herkimer* | 3,000 | 5 | 20.00 | 2 | 40.0 | 200.00 | ... |
| UTICA | 46,608 | 68 | 17.54 | 16 | 23.5 | 60.00 | ... |
| Whitestown | 5,225 | 5 | 12.00 | 1 | 20.0 | ..... | ... |
| ROME | 18,638 | 17 | 15.00 | 2 | 11.8 | 117.75 | ... |
| Boonville | 3,512 | 2 | ..... | 0 | ... | ..... | ... |
| Camden | 3,675 | 5 | 16.32 | 1 | 20.0 | ..... | ... |
| Waterford | 5,522 | 16 | 34.74 | 6 | 37.5 | 187.50 | ... |
| *Ballston Spa* | 3,527 | 10 | 34.00 | 4 | 40.0 | 300.00 | ... |
| *Saratoga Springs* | 12,000 | 16 | 16.60 | 4 | 25.0 | 62.50 | ... |
| Rest of District | ..... | 219 | ..... | 33 | 15.0 | 95.45 | 1 |
| SOUTHERN TIER DISTRICT: | | | | | | | |
| Totals | ..... | 396 | ..... | 69 | 17.2 | 137.25 | 1 |
| BINGHAMTON | 34,514 | 48 | 16.70 | 11 | 23.0 | 104.18 | ... |
| *Owego* | 6,000 | 2 | ..... | 0 | .... | ..... | ... |
| Candor | 3,525 | 3 | 11.00 | 1 | 33.3 | 333.33 | ... |
| *Waverly* | 4,123 | 3 | 9.00 | 0 | ... | ..... | ... |
| ELMIRA | 30,000 | 51 | 20.40 | 8 | 15.7 | 117.65 | 1 |
| Horseheads | 3,319 | 1 | ..... | 0 | .... | ..... | ... |
| HORNELLSVILLE | 11,898 | 12 | 12.20 | 4 | 33.3 | 333.33 | ... |
| *Bath* | 3,261 | 6 | 22.00 | 2 | 33.3 | 166.67 | ... |
| CORNING | 10,025 | 8 | ..... | 3 | 37.5 | 250.00 | ... |
| Wellsville | 5,033 | 3 | ..... | 0 | .... | 333.33 | ... |

FOR FEBRUARY — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | ... | ... | .... | ... | .. | ..... | ... | 2 | ... | ..... | .... | .. | ..... | .... | ... | 1 | 1 |
| ... | .... | ... | ... | .... | ... | .. | ..... | 2 | 2 | ... | ..... | .... | 1 | ..... | .... | 2 | ... | 3 |
| ... | .... | ... | ... | .... | ... | .. | ..... | ... | 1 | .... | ..... | 1 | ... | 1 | .... | ... | ... | ... |
| ... | .... | ... | ... | .... | ... | .. | ..... | 1 | 1 | .... | 1 | ... | 2 | ..... | .... | ... | ... | 1 |
| 2 | .... | 15 | 8 | 4 | 1 | 10 | 5 | 2 | ... | 2 | 1 | 2 | 1 | ..... | .... | ... | 3 | ... |
| | | | | | | | | 51 | 25 | | 16 | 18 | 35 | 41 | 8 | 8 | 43 | 22 |
| 1 | .... | 4 | 2 | 4 | 3 | 18 | 2 | 80 | 39 | 6 | 39 | 19 | 36 | 40 | 8 | 6 | 42 | 36 |
| ... | .... | ... | .... | 1 | 1 | 2 | ..... | 1 | 1 | .... | 3 | 1 | 1 | 2 | .... | 1 | 1 | 3 |
| ... | .... | ... | ... | .... | ... | ... | ..... | 2 | 1 | .... | ... | ... | ... | ... | .... | 1 | 1 | ... |
| ... | .... | ... | ... | .... | ... | ... | ..... | ... | ... | .... | ... | ... | ... | ... | .... | ... | ... | 1 |
| ... | .... | ... | ... | .... | 1 | ... | ..... | 1 | 1 | .... | ... | 1 | ... | 2 | .... | ... | 3 | ... |
| ... | .... | ... | ... | 1 | 1 | ... | ..... | 12 | 4 | ... | 1 | 2 | ... | 1 | .... | ... | 2 | 1 |
| ... | .... | ... | ... | .. | .. | ... | ..... | 1 | ... | ... | 1 | ... | 1 | 1 | .... | ... | 3 | ... |
| ... | .... | ... | ... | .... | ... | 1 | ..... | 1 | 2 | .... | ... | ... | ... | ... | .... | ... | ... | ... |
| ... | .... | ... | ... | .... | ... | 1 | ..... | ... | ... | .... | 2 | ... | ... | 1 | .... | ... | 2 | 4 |
| 1 | .... | ... | ... | .... | ... | 3 | ..... | ... | 2 | .... | ... | ... | 1 | 6 | .... | ... | 2 | 3 |
| ... | .... | ... | ... | .... | ... | 1 | ..... | ... | ... | .... | ... | ... | ... | ... | .... | ... | ... | 1 |
| ... | .... | ... | ... | .... | ... | ... | ..... | 1 | ... | .... | 1 | ... | 2 | 1 | .... | ... | 1 | 1 |
| ... | .... | ... | ... | .... | ... | ... | ..... | ... | ... | .... | ... | ... | 1 | ... | 1 | ... | ... | ... |
| ... | .... | ... | ... | .... | ... | ... | ..... | 1 | ... | .... | ... | ... | 1 | 1 | .... | ... | ... | ... |
| ... | .... | 4 | 2 | 2 | .... | 10 | 2 | 60 | 28 | 6 | 28 | 15 | 29 | 23 | 7 | 4 | 25 | 17 |
| 2 | .. | 3 | 2 | 1 | 3 | 26 | 8 | 79 | 49 | 3 | 35 | 28 | 32 | 61 | 14 | 14 | 46 | 71 |
| 2 | .. | ... | .... | .. | 1 | 2 | 4 | 6 | 7 | 1 | 5 | .. | 3 | 4 | .... | 2 | .... | 10 |
| ... | .. | ... | .... | .... | .... | ... | ..... | 2 | 1 | .... | ... | 1 | 1 | .... | .... | ... | .... | ... |
| ... | .. | 1 | .... | .... | .... | 2 | ..... | ... | 3 | .... | ... | ... | ... | .... | .... | ... | .... | 24 |
| ... | . | ... | .... | .... | .... | ... | ..... | 3 | 1 | .... | ... | ... | ... | .... | .... | ... | .... | ... |
| ... | ... | 1 | ... | .... | ... | 2 | ..... | 3 | 5 | .... | ... | ... | ... | 5 | .... | 1 | .... | 6 |
| ... | .... | ... | .... | 1 | .... | ... | ..... | 1 | 2 | .... | ... | ... | 1 | 1 | .... | 1 | 3 | 1 |
| ... | ... | ... | .... | .... | .... | ... | ..... | 1 | ... | .... | 1 | ... | ... | ... | .... | ... | 1 | 1 |
| ... | .. | ... | .... | .... | .... | 3 | ..... | 11 | 9 | .... | 3 | 7 | 4 | 17 | 2 | 1 | 6 | 4 |
| ... | .... | ... | .... | .... | .... | ... | ..... | ... | 3 | .... | 1 | ... | ... | ... | .... | ... | .... | 1 |
| ... | .... | 1 | .... | .... | .... | .... | 1 | 2 | 1 | 1 | 2 | .... | 2 | 2 | .... | .... | 4 | 1 |
| ... | .... | ... | .... | .... | .... | .... | ..... | 1 | ... | .... | ... | ... | ... | ... | .... | 1 | ... | ... |
| ... | .... | ... | .... | .... | .... | 1 | 1 | 4 | ... | .... | ... | 2 | 1 | 3 | .... | 1 | 1 | ... |
| ... | .... | .. | ... | .... | .... | 3 | ..... | 3 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 3 |
| ... | .... | ... | .... | .... | .... | 1 | ..... | 4 | ... | ... | ... | 2 | 2 | 1 | ... | 1 | 2 | 3 |
| .. | .... | .... | 2 | .... | 2 | 12 | 2 | 37 | 17 | 1 | 23 | 15 | 18 | 28 | 11 | 5 | 28 | 15 |
| ... | .... | 9 | 6 | 3 | 1 | 19 | 4 | 63 | 27 | 8 | 34 | 24 | 48 | 58 | 9 | 15 | 35 | 21 |
| ... | .. | 1 | 1 | .... | .... | 1 | 2 | 5 | 7 | 1 | 4 | 5 | 5 | 9 | 1 | 1 | 4 | 1 |
| ... | .... | ... | ... | .... | .... | ... | ..... | ... | 1 | .... | ... | ... | ... | ... | .... | ... | ... | 1 |
| ... | .... | ... | ... | .... | .... | ... | 1 | ... | ... | .... | ... | ... | ... | ... | .... | ... | 1 | 1 |
| ... | .... | ... | ... | .... | .... | ... | ..... | 1 | ... | .... | ... | ... | ... | 1 | .... | ... | 1 | ... |
| ... | .... | 1 | .... | .. | ... | 3 | ..... | 11 | 4 | 1 | 2 | 3 | 8 | 5 | 1 | 4 | 3 | 3 |
| ... | .... | ... | .... | .... | .... | ... | ..... | 1 | ... | .... | ... | ... | ... | ... | .... | ... | ... | ... |
| ... | .... | 1 | .... | .... | .... | 3 | ..... | 2 | ... | .... | ... | 1 | 1 | 1 | .... | ... | 2 | ... |
| ... | .... | ... | .... | .... | .... | ... | ..... | ... | ... | .... | ... | .. | 1 | 1 | .... | ... | 2 | 1 |
| ... | .... | ... | .... | .... | .... | 1 | ..... | 1 | ... | .... | 1 | ... | ... | ... | 1 | 1 | ... | 2 |
| ... | .... | 1 | ... | .... | .... | ... | ..... | ... | ... | .... | ... | 2 | ... | ... | ... | ... | ... | ... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| SOUTHERN TIER DIST.—(*Cont'd.*) | | | | | | | | |
| *Olean* | 7,358 | 11 | 18.00 | 2 | 18.2 | 90.91 | .... | 1 |
| *Salamanca* | 3,700 | 1 | ..... | 1 | .... | ..... | .... | .... |
| JAMESTOWN | 18,627 | 27 | 17.38 | 8 | 30.0 | 222.22 | .... | 2 |
| *Westfield* | 3,000 | 1 | 4.00 | 0 | .... | ..... | .... | .... |
| *Fredonia* | 3,400 | 5 | 17.65 | 2 | 40.0 | 200.00 | .... | .... |
| Rest of District | .... ..... | 214 | .. .. | 27 | 12.6 | 113.70 | .... | 5 |
| EAST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ..... | 465 | .. .. | 96 | 12.0 | 110.87 | .... | 9 |
| SYRACUSE | 91,944 | 149 | 19.45 | 46 | 30.8 | 114.10 | .... | 3 |
| *Baldwinsville* | 3,040 | 6 | 24.00 | 3 | 50.0 | 166.67 | .... | .... |
| De Witt | 5,182 | 7 | 16.00 | 1 | 14.3 | 142.85 | .... | 1 |
| *Cortland* | 8,590 | 9 | 12.60 | 3 | 33.3 | 222.22 | .... | .... |
| *Homer* | 3,000 | 1 | .. .. | 0 | .... | .... | .... | .... |
| *Oneida* | 6,068 | 7 | 14.00 | 2 | 28.5 | ..... | .... | .... |
| Hamilton | 4,110 | 7 | 20.75 | 1 | 14.3 | 142.85 | .... | .... |
| Cazenovia | 3,803 | 7 | 22.06 | 3 | 42.8 | 428.50 | .... | .... |
| Brookfield | 3,235 | 1 | ..... | 0 | .... | .... | .... | .... |
| *Norwich* | 5,212 | 9 | 20.80 | 4 | 44.4 | 444.44 | .... | .... |
| *Oneonta* | 6,776 | 13 | 24.87 | 1 | 7.7 | 153.85 | .... | .... |
| Worcester | 2,670 | 7 | 28.00 | 2 | 28.5 | ..... | .... | .... |
| *Cooperstown* | 3,000 | 2 | 8.00 | 0 | .... | .... | .... | .... |
| Walton | 4,811 | 3 | 9.00 | 0 | .... | 333.33 | .... | 1 |
| Delhi | 3,000 | 5 | 20.00 | 1 | 20.0 | ..... | .... | .... |
| Liberty | 3,471 | 6 | 21.20 | 1 | 16.7 | ..... | .... | .... |
| Rest of District | .... ..... | 226 | .. .... | 28 | 11.8 | 85.30 | .... | 4 |
| WEST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ..... | 318 | ..... | 49 | 15.6 | 53.18 | .... | 2 |
| AUBURN | 24,737 | 38 | 18.43 | 6 | 15.5 | 77.50 | .... | .... |
| ITHACA | 13,460 | 10 | ..... | 3 | 33.0 | 200.00 | .... | .... |
| *Waterloo* | 4,350 | 3 | 8.28 | 1 | 33.3 | .... .. | .... | .... |
| *Seneca Falls* | 6,116 | 7 | 14.00 | 1 | 14.3 | ..... | .... | .... |
| *Geneva* | 7,557 | 8 | 14.70 | 2 | 20.0 | 200.00 | .... | .... |
| *Canandaigua* | 5,868 | 4 | 9 00 | 1 | 25.0 | ..... | .... | .... |
| Manchester | 4,181 | 5 | 15.00 | 1 | 20.0 | 400.00 | .... | .... |
| Phelps | 5,150 | 8 | 18.68 | 1 | 12.5 | ..... | .... | .... |
| *Penn Yan* | 4,254 | 7 | 19.74 | 1 | 12.8 | .. .... | .... | .... |
| *Batavia* | 7,221 | 6 | 10.00 | 1 | 16.7 | .... | .... | .... |
| *Dansville* | 3,758 | 6 | 19.14 | 1 | 16.7 | 166 67 | .... | .... |
| *Le Roy* | 3,000 | 4 | 16.00 | 1 | 25.0 | ..... | .... | .... |
| Warsaw | 4,700 | 9 | 22.95 | 6 | 66.6 | ..... | .... | .... |
| Rest of District | ..... | 203 | ..... | 23 | 11.5 | 40.00 | .... | 2 |
| LAKE ONTARIO & WEST. DIST.: | | | | | | | | |
| Totals | ..... | 946 | ..... | 285 | 30.0 | 130.00 | 4 | 12 |
| BUFFALO | 290,000 | 335 | 14.21 | 140 | 41.8 | 140.30 | 4 | 8 |
| TONAWANDA | 7,145 | 9 | 15.12 | 4 | 44.4 | 222.22 | .... | .... |
| Amherst | 3,960 | 4 | 12.50 | 1 | 25.0 | ..... | .... | .... |
| *North Tonawanda* | 4,800 | 9 | 22.50 | 2 | 22.2 | 222.22 | .... | 1 |
| LOCKPORT | 16,088 | 16 | 12.00 | 1 | 6.2 | 62.50 | .... | 1 |
| NIAGARA FALLS | 5,502 | 20 | ..... | 10 | 50.0 | 250.00 | .... | .... |
| *Medina* | 4,500 | 5 | 13.35 | 2 | 40.0 | ..... | .. | .... |
| *Albion* | 4,536 | 10 | 26.10 | 3 | 30.0 | 200.00 | .... | .... |
| *Brockport* | 3,742 | 5 | 16.00 | 1 | 20.0 | 200.00 | .... | .... |
| ROCHESTER | 144,834 | 230 | 19.05 | 60 | 26.0 | 165.20 | .... | 3 |
| Palmyra | 4,178 | 5 | 14.35 | 1 | 25.0 | ..... | .... | .... |
| *Newark* | 8,000 | 6 | 24.00 | 0 | .... | ..... | .... | .... |

FOR FEBRUARY — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | .. | .... | .... | 1 | .... | .... | 1 | 1 | 2 | 1 | .... | ..... | ..... | 1 | 1 | 1 | 2 |
| ... | .... | .... | .... | .... | .... | 4 | ..... | 1 | 2 | .... | 5 | 1 | 3 | 5 | .... | 1 | 1 | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| ... | .... | 1 | .... | .... | .... | .... | ..... | .... | .... | 1 | 1 | .... | 1 | 1 | .... | .... | .... | .... |
| ... | .... | 4 | 5 | 3 | .... | 7 | 1 | 39 | 12 | 3 | 20 | 12 | 29 | 35 | 4 | 7 | 20 | 8 |
| 1 | .... | 2 | 21 | 1 | 4 | 12 | 3 | 95 | 37 | 4 | 36 | 18 | 48 | 60 | 14 | 20 | 46 | 34 |
| 1 | .... | .... | 7 | 1 | .... | 5 | .... | 29 | 16 | 1 | 11 | 3 | 15 | 14 | 6 | 15 | 9 | 13 |
| ... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | 1 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | 2 | .... | 1 | 1 | .... | 2 | .... | .... | 2 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 2 | 1 | .... | .... | .... | 2 |
| ... | .... | 1 | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | 1 | .... | .... | 2 | .... |
| ... | .... | .... | 2 | .... | 1 | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | .... | 1 | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | 3 | .... | .... | 1 | .... | .... | 1 | .... | 1 | .... | .... | 2 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | 1 | .... | 1 | 2 | .... | .... | 1 | .... | .... | 4 | 2 | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | .... | 1 | 1 | 2 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 2 | .... | .... | .... | 1 | 1 |
| ... | .... | 1 | 9 | .... | 2 | 4 | 1 | 51 | 14 | 2 | 18 | 13 | 25 | 33 | 4 | 4 | 29 | 12 |
| ... | .... | 5 | .... | 1 | 1 | 7 | 1 | 58 | 34 | 5 | 25 | 23 | 34 | 45 | 6 | 14 | 37 | 20 |
| ... | .... | 1 | .... | .... | .... | 2 | .... | 6 | 7 | .... | 4 | 2 | 3 | 7 | .... | 2 | 3 | 1 |
| ... | .... | .... | .... | .... | 1 | 1 | .... | 2 | 1 | .... | 1 | .... | 1 | 2 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | 1 | 1 | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | 1 | .... | 2 | .... | .... | .... | .... | 1 | .... | .... | 3 | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | 1 | .... | .... | 1 | .... |
| ... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 2 | 2 | .... | .... | .... | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | .... | .... | 1 | 1 | .... | 1 | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | 1 | 1 | .... | .... | 1 | 1 |
| ... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 4 | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | 2 |
| ... | .... | 3 | .... | .... | .... | 2 | 1 | 39 | 23 | 4 | 14 | 14 | 21 | 29 | 5 | 7 | 28 | 11 |
| 1 | . | 21 | 3 | 4 | 3 | 55 | 21 | 133 | 82 | 16 | 51 | 57 | 82 | 139 | 29 | 29 | 93 | 111 |
| 1 | .... | 5 | 1 | 1 | 2 | 18 | 13 | 43 | 31 | 9 | 14 | 19 | 22 | 58 | 10 | 12 | 21 | 49 |
| ... | .... | .... | .... | .... | .... | 2 | .... | 1 | .... | .... | 2 | .... | 1 | 1 | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | 2 | .... | .... | 1 | 1 | .... | 2 | .... |
| ... | .... | 1 | .... | .... | .... | 2 | 2 | 5 | 1 | .... | 1 | .... | 2 | 1 | .... | 1 | .... | 4 |
| ... | .... | .... | .... | .... | .... | .... | .... | 3 | 1 | .... | 1 | .... | .... | 6 | 1 | .... | .... | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 1 | 1 | .... | .... | 1 | .... |
| ... | .... | .... | .... | 1 | .... | .... | 1 | .... | 1 | 1 | 1 | .... | 1 | .... | .... | .... | 3 | 1 |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | 1 | .... |
| ... | .... | 8 | .... | .... | .... | 22 | 4 | 34 | 20 | 2 | 13 | 17 | 21 | 31 | 5 | 5 | 28 | 16 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 2 | 1 | .... | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | .... | 2 | .... | 1 | .... | .... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONT. & WEST. DIS.—(*C'f'd*) | | | | | | | | |
| Lyons | 6,127 | 7 | 14.00 | 2 | 28.5 | ..... | .... | ... |
| *Clyde* | 3,000 | 4 | 16.00 | 0 | ... | ..... | .... | ... |
| Oswego | 21,966 | 39 | 21.25 | 6 | 15.4 | 51.30 | ... | 1 |
| *Fulton* | 4,214 | 8 | 22.80 | 2 | 25.0 | 125.00 | .... | ... |
| Richland | 3,637 | 2 | ..... | 0 | ... | ..... | .... | ... |
| Rest of District | ..... | 232 | ..... | 50 | 20.0 | 100.00 | ... | 4 |
| Totals for the State | ..... | 9,353 | ..... | 2,810 | 30.0 | 136.28 | 46 | 10 |
| Av'ge for Feb. for past 8 years | ..... | 8,369 | ..... | 2,593 | 31.0 | 137.28 | 36 | 6 |
| Totals for January, 1893 | ..... | 10,490 | ..... | 3,056 | 29.1 | 137.00 | 44 | 13 |

REMARKS.— The average daily death rate for February was 334; that of January was 338, and the which was excessive, on account of 2,000 deaths from grippe during the month. There is an excess an increased number of deaths reported from acute respiratory and other local diseases, and was reported. The proportion of deaths from zymotic diseases is the same as last month, and the the smallest number since September last, and is considerably less than occurred in the early deaths being reported from it, but there is a much smaller mortality from it than a year ago. The were 121 deaths from whooping cough, which is an unusually large number; most of them were in the Kings county hospital for contagious diseases, 3 in Long Island City, and 1 in Gravesend. deaths from all causes reported, 7,485 occurred in 149 cities, villages and populous towns, the death at 19.85, and for the entire State 20.07. In the urban portion of the State 14.33 per cent of the

FOR FEBRUARY — (*Concluded*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | .... | .... | .... | .... | .. | ..... | 1 | 1 | .. | 1 | .... | ..... | 2 | .... | 1 | ... | 1 |
| .... | .. | .. | .... | .... | .. | .... | ..... | 1 | 1 | .... | ..... | .. | .. | 1 | .... | .. | 1 | ... |
| . | .... | .... | .. | ... | 1 | .... | ... .. | 2 | 5 | .... | 2 | 2 | 6 | 6 | ... | 1 | 3 | 10 |
| .... | .... | ... | 1 | . . | .... | .. | .. .. | ..... | 2 | .... | ..... | 2 | 1 | 1 | 1 | .... | .... | .... |
| .... | ... | ... | .. | ... | ... | ... | ..... | ..... | 2 | ... | .. | ... | ... | ..... | ... | .. | ... | ... |
| .... | .... | 7 | 1 | 1 | .. | 9 | 1 | 39 | 17 | 4 | 12 | 16 | 24 | 27 | 8 | 6 | 32 | 24 |
| 29 | 23 | 198 | 80 | 58 | 121 | 480 | 141 | 1, 910 | 954 | 102 | 602 | 554 | 779 | 1, 102 | 218 | 279 | 496 | 1080 |
| 43 | 8 | 170 | 104 | 58 | 71 | 515 | 89 | 1, 586 | 1, 041 | 96 | 428 | 428 | 561 | 879 | 185 | 250 | 61 | 878 |
| 34 | 15 | 237 | 86 | 52 | 94 | 613 | 141 | 2, 293 | 1, 099 | 136 | 568 | 607 | 866 | 1, 128 | 260 | 339 | 515 | 1243 |

average for February for eight years past was 298. In February, 1892, there were 371 deaths daily, this month above the usual mortality in February, amounting to about 500 deaths, which was due to probably due to the continued prevalence of mild epidemic influenza, deaths from which are average for February; so also is the mortality in early life. Diphtheria caused 480 deaths, which is months of 1892. The prevalence of scarlet fever in the eastern part of the State continues, 198 deaths from diarrhœal diseases is still higher by 50 per cent than is usual at this season. There the Maratime district. Of 23 deaths from small pox, 8 occurred in New York, 2 in Brooklyn, 9 in There were 41 deaths from typhus fever in New York and 1 in Long Island City. Of the 9,853 rate being 20.13 per 1,000 population, annually. For the rest of the State the death rate is estimated mortality was from zymotic diseases; in the rural, 10.82.

MONTHLY BULLETIN OF THE N

*Abstract of reports of deaths and causes in the follow*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Ro

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. |
|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | | 7,575 | | 2,432 | 32.1 | 125.00 | 74 |
| NEW YORK CITY | 1,860,803 | 4,776 | 30.18 | 1,563 | 32.8 | 132.54 | 53 |
| BROOKLYN | 978,394 | 1,980 | 23.82 | 689 | 34.8 | 114.14 | 16 |
| Gravesend | 8,418 | 9 | 13.00 | 3 | 33.3 | 222.22 | .. |
| New Utrecht | 9,129 | 18 | 23.67 | 5 | 27.7 | 222.22 | .. |
| LONG ISLAND CITY | 35,745 | 90 | 30.42 | 22 | 24.6 | 133.33 | 2 |
| Newtown | 19,776 | 30 | 18.20 | 6 | 20.0 | 166.66 | .. |
| Oyster Bay | 14,887 | 24 | 19.33 | 7 | 29.5 | 83.33 | .. |
| Hempstead | 23,991 | 35 | 17.60 | 10 | 28.5 | 28.50 | .. |
| North Hempstead | 8,726 | 14 | 16.32 | 4 | 28.5 | 71.42 | .. |
| Jamaica | 17,654 | 27 | 18.32 | 6 | 22.2 | 74.00 | .. |
| Flushing | 20,816 | 27 | 15.60 | 6 | 22.2 | 37.00 | .. |
| Southold | 7,671 | 8 | 12.50 | 0 | .. | 125.00 | .. |
| *Sag Harbor* | 3,000 | 2 | 8.00 | 0 | .. | .. | .. |
| Huntington | 8,253 | 13 | 18.90 | 1 | 8.0 | .. | .. |
| Brookhaven | 13,493 | 18 | 15.80 | 4 | 22.2 | .. | .. |
| *New Brighton* | 16,423 | 30 | 21.93 | 7 | 23.3 | 33.33 | .. |
| *Edgewater* | 14,365 | 25 | 21.00 | 9 | 36.0 | 20.00 | .. |
| *Port Richmond* | 6,390 | 6 | 11.00 | 1 | 16.7 | 333.33 | .. |
| Westfield | 8,648 | 15 | 20.65 | 1 | 6.2 | 62.50 | .. |
| YONKERS | 34,000 | 47 | 16.60 | 13 | 27.6 | 127.60 | .. |
| Westchester | 8,326 | 17 | 24.20 | 2 | 11.8 | 178.50 | .. |
| Greenburgh | 11,630 | 6 | .. | 0 | .. | .. | .. |
| MOUNT VERNON | 10,830 | 28 | .. | 11 | 39.3 | 178.50 | 2 |
| *Port Chester* | 5,274 | 11 | 23.00 | 2 | 18.2 | 181.82 | .. |
| *Sing Sing* | 9,352 | 14 | 18.00 | 2 | 14.2 | .. | .. |
| *New Rochelle* | 8,217 | 16 | 22.00 | 2 | 12.5 | 62.50 | .. |
| *Peekskill* | 9,676 | 17 | 21.08 | 2 | 11.8 | 59.35 | .. |
| *White Plains* | 4,042 | 11 | 32.50 | 7 | 63.7 | 191.50 | .. |
| Rest of District | .. | 261 | .. | 47 | 18.0 | 123.00 | 1 |
| HUDSON VALLEY DISTRICT: Totals | | 1,198 | | 291 | 24.1 | 120.00 | 3 |
| ALBANY | 98,000 | 194 | 23.66 | 63 | 32.4 | 149.21 | .. |
| COHOES | 23,234 | 56 | 28.95 | 21 | 37.5 | 245.70 | .. |
| TROY | 64,986 | 120 | 22.20 | 26 | 21.6 | 83.33 | .. |
| *West Troy* | 12,967 | 33 | 30.45 | 14 | 42.4 | 212.12 | .. |
| *Green Island* | 4,463 | 11 | 29.50 | 3 | 27.3 | 191.90 | .. |
| *Lansingburgh* | 10,550 | 22 | 25.00 | 9 | 40.9 | 45.45 | .. |
| *Hoosick Falls* | 7,014 | 16 | 27.42 | 3 | 18.7 | 250.00 | .. |
| *Greenbush* | 7,462 | 14 | 22.87 | 4 | 28.5 | 142.86 | .. |
| COXSACKIE | 3,824 | 6 | 19.08 | 1 | 16.6 | 166.67 | .. |
| *Catskill* | 4,920 | 13 | 31.59 | 7 | 53.7 | 153.70 | .. |
| HUDSON | 9,633 | 22 | 27.28 | 6 | 27.2 | 45.45 | .. |
| KINGSTON | 21,500 | 45 | 25.20 | 18 | 40.0 | 244.44 | 1 |
| *Ellenville* | 3,000 | 1 | .. | 1 | .. | .. | .. |
| Marbletown | 3,689 | 5 | 16.50 | 1 | 20.0 | .. | .. |
| Rosendale | 6,125 | 5 | 10.00 | 2 | 40.0 | .. | .. |
| Esopus | 5,035 | 7 | 16.80 | 2 | 28.5 | .. | .. |
| *Saugerties* | 4,237 | 8 | 22.64 | 3 | 37.5 | 125.00 | .. |
| POUGHKEEPSIE | 23,200 | 77 | 39.80 | 17 | 22.1 | 233.80 | .. |
| *Fishkill* | 3,617 | 4 | 13.26 | 0 | .. | .. | .. |
| *Wappinger Falls* | 3,718 | 8 | 25.76 | 1 | 12.5 | .. | .. |
| NEWBURGH | 24,536 | 54 | 26.46 | 16 | 44.5 | 37.70 | .. |
| *Port Jervis* | 9,327 | 19 | 24.40 | 6 | 30.0 | 97.53 | .. |
| MIDDLETOWN | 11,612 | 24 | 24.00 | 1 | 4.2 | 42.80 | .. |

YORK STATE BOARD OF HEALTH.

*districts, cities and towns, during March*, 1893.

type. For boundaries of *Sanitary Districts*, see Annual Summary.]

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 29 | 148 | 37 | 23 | 134 | 328 | 95 | 2,143 | 857 | 72 | 390 | 473 | 482 | 740 | 151 | 206 | 157 | 957 |
| 17 | 11 | 79 | 25 | 15 | 90 | 241 | 73 | 1,330 | 567 | 44 | 227 | 307 | 285 | 405 | 93 | 155 | 63 | 667 |
| 8 | 2 | 59 | 8 | 7 | 34 | 67 | 11 | 619 | 183 | 24 | 116 | 122 | 131 | 246 | 35 | 27 | 39 | 212 |
| ... | ... | ... | .. | ... | ... | 1 | 1 | 1 | ... | 1 | ..... | 1 | 2 | 1 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | 2 | 1 | ..... | 1 | 3 | ... | 1 | 1 | 1 | 4 | 1 | 2 | ... | ... |
| ... | 3 | ... | ... | ... | ... | 7 | ..... | 27 | 12 | ... | 6 | 3 | 2 | 7 | 3 | 2 | 6 | 10 |
| .. | ... | 3 | ... | ... | 2 | ... | ..... | 10 | 2 | ... | 1 | ... | 3 | 5 | ... | 1 | 1 | 2 |
| .. | ... | ... | ... | ... | ... | 2 | ..... | 3 | 2 | 1 | 2 | 1 | 4 | 2 | 1 | 2 | 1 | 2 |
| .. | ... | ... | 1 | ... | ... | 1 | ..... | 9 | ... | ... | 2 | 3 | 5 | 3 | 2 | 2 | 2 | 6 |
| .. | ... | ... | ... | ... | 2 | ... | ..... | 2 | 2 | ... | 2 | 1 | 2 | 1 | ... | ... | ... | 1 |
| .. | ... | ... | ... | ... | ... | ... | ..... | 7 | 3 | ... | 3 | 1 | 1 | 8 | ... | ... | ... | 2 |
| .. | ... | ... | ... | ... | 1 | ... | ..... | 11 | 4 | 1 | ... | ... | 2 | 1 | ... | ... | 4 | 3 |
| 1 | ... | ... | ... | ... | ... | ... | ..... | 1 | 2 | ... | 2 | ... | ... | 1 | ... | ... | 1 | ... |
| .. | ... | ... | ... | ... | ... | ... | ..... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| .. | ... | ... | ... | ... | ... | ... | ..... | 3 | 2 | ... | ... | ... | ... | 2 | 1 | 2 | ... | 3 |
| .. | ... | ... | ... | ... | 1 | ... | ..... | 4 | 2 | ... | 2 | ... | 3 | 2 | ... | ... | 3 | 2 |
| .. | ... | ... | ... | ... | ... | ... | ..... | 9 | 4 | ... | 1 | 3 | 2 | 4 | ... | 2 | 3 | 1 |
| .. | ... | ... | ... | ... | ... | 1 | ..... | 9 | 2 | ... | 1 | ... | 3 | 3 | ... | ... | 3 | 3 |
| 1 | ... | ... | ... | ... | 2 | ... | ..... | ... | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 |
| 1 | ... | 2 | ... | 1 | ... | 1 | 1 | 18 | ... | 1 | 2 | 4 | 6 | 6 | ... | 2 | 1 | 1 |
| 2 | ... | ... | ... | ... | ... | 1 | ..... | 2 | 3 | ... | ... | 4 | 3 | ... | 1 | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ..... | ... | 1 | ... | 1 | ... | 1 | 2 | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 2 | 7 | 2 | ... | 2 | 3 | 2 | 2 | 1 | ... | ... | 4 |
| ... | ... | 2 | ... | ... | ... | ... | ..... | 3 | 1 | ... | ... | 1 | ... | ... | 2 | 1 | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ..... | 3 | 4 | ... | ... | ... | 1 | 2 | ... | ... | 3 | 1 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 4 | 2 | ... | 1 | ... | ... | 1 | 3 | ... | 2 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ..... | 4 | 3 | ... | 3 | 1 | ... | ... | 2 | ... | 1 | 2 |
| ... | ... | ... | 2 | ... | ... | ... | ..... | 4 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 3 |
| 1 | 13 | 3 | 1 | .... | .... | 5 | 5 | 45 | 50 | .... | 14 | 14 | 21 | 29 | 5 | 5 | 20 | 26 |
| ... | ... | 27 | 6 | 1 | 8 | 47 | 36 | 236 | 107 | 25 | 72 | 67 | 100 | 178 | 26 | 24 | 87 | 102 |
| .. | ... | 5 | ... | ... | .. | 5 | 10 | 46 | 17 | 3 | 13 | 11 | 9 | 31 | 4 | 3 | 4 | 24 |
| ... | ... | 2 | ... | 1 | ... | 3 | 6 | 9 | 4 | 3 | 5 | 2 | 4 | 8 | ... | ... | 3 | 5 |
| ... | ... | 3 | ... | ... | ... | 2 | 2 | 36 | 16 | 5 | 8 | 6 | 12 | 14 | 2 | 1 | 4 | 6 |
| .. | ... | 3 | ... | ... | ... | ... | 2 | 11 | 2 | ... | 1 | ... | 1 | 3 | ... | 1 | 2 | 5 |
| .. | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | 1 | 1 | 1 | 3 | ... | ... | ... | 1 |
| .. | ... | ... | ... | ... | ... | 1 | ..... | 4 | ... | ... | 4 | 3 | 2 | 3 | ... | ... | 2 | 3 |
| .. | ... | ... | ... | ... | ... | 4 | ..... | 4 | 2 | ... | 1 | 1 | 3 | ... | ... | 1 | ... | ... |
| .. | ... | ... | ... | ... | ... | 2 | ..... | 2 | ... | ... | 3 | ... | 2 | 3 | ... | ... | ... | 2 |
| .. | ... | 1 | ... | ... | ... | ... | ..... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 2 | 1 |
| .. | ... | ... | ... | ... | ... | 2 | ..... | 5 | 1 | ... | 1 | ... | 2 | ... | 1 | 1 | ... | ... |
| .. | ... | ... | ... | ... | ... | ... | 1 | 4 | 3 | 1 | 1 | 2 | 4 | 2 | ... | ... | 1 | 2 |
| .. | ... | 1 | ... | ... | 2 | 6 | 1 | 13 | 3 | 2 | 2 | 2 | 8 | 3 | ... | ... | 1 | ... |
| .. | ... | ... | ... | ... | ... | 1 | ..... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| .. | ... | ... | ... | ... | ... | ... | ..... | 1 | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 |
| .. | ... | ... | ... | ... | ... | ... | ..... | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 |
| .. | ... | ... | ... | ... | ... | ... | ..... | 2 | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 |
| .. | ... | ... | ... | ... | ... | 1 | ..... | 1 | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | 3 |
| .. | ... | 6 | ... | ... | ... | ... | 7 | 15 | 5 | ... | 6 | 2 | 1 | 9 | 3 | 2 | 12 | 4 |
| .. | ... | ... | ... | ... | ... | ... | ..... | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... |
| .. | ... | ... | ... | ... | ... | ... | ..... | 3 | 2 | ... | ... | 1 | 1 | ... | ... | ... | ... | 1 |
| .. | ... | ... | ... | ... | ... | 1 | ..... | 15 | 8 | ... | 1 | 6 | 5 | 5 | 1 | 1 | 3 | 7 |
| .. | ... | ... | ... | ... | ... | 2 | ..... | 2 | 2 | 1 | ... | ... | 3 | 4 | ... | 2 | 2 | 1 |
| .. | ... | ... | 1 | ... | ... | ... | ..... | ... | 5 | ... | 1 | 3 | ... | 10 | ... | 1 | 3 | ... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| HUDSON VAL. DIST.—(*Cont'd*): | | | | | | | | |
| Warwick | 6,000 | 3 | 6.00 | 0 | .... | ..... | .... | .... |
| Goshen | 4,646 | 9 | 23.22 | 0 | .... | ..... | .... | .... |
| Montgomery | 5,259 | 9 | 20.50 | 0 | .... | ..... | .... | .... |
| Haverstraw | 7,714 | 7 | 12.00 | 0 | .... | ..... | .... | .... |
| *Nyack* | 5,603 | 9 | 19.26 | 4 | 44.4 | 111.11 | .... | 1 |
| Ramapo | 6,000 | 3 | ..... | 0 | .... | 666.66 | .... | .... |
| Rest of District | ..... | 394 | ..... | 62 | 15.8 | 105.00 | 2 | 2 |
| ADIRONDACK & NORTH'N DIST.: | | | | | | | | |
| Totals | ..... | 431 | .... | 86 | 20.0 | 102.32 | 2 | 4 |
| WATERTOWN | 16,982 | 34 | 22.89 | 8 | 34.5 | 187.50 | .... | 1 |
| Ellisburgh | 4,223 | 10 | 28.00 | 3 | 30.0 | ..... | .... | .... |
| Cape Vincent | 3,000 | 3 | 12.00 | 0 | .... | ..... | .... | .... |
| Clayton | 4,250 | 5 | 14.00 | 0 | .... | 200.00 | .... | .... |
| OGDENSBURGH | 11,969 | 23 | 23.00 | 10 | 43.5 | 173.91 | .... | .... |
| Governeur | 5,921 | 12 | 24.00 | 2 | 16.7 | 88.88 | 1 | .... |
| *Potsdam* | 4,000 | 7 | 21.00 | 3 | 42.8 | 142.85 | .... | 1 |
| Canton | 6,013 | 5 | ..... | 1 | 20.0 | ..... | .... | .... |
| *Malone* | 5,000 | 9 | 21.60 | 1 | 11.1 | ..... | .... | .... |
| *Plattsburgh* | 7,010 | 12 | 20.52 | 4 | 33.3 | 250.00 | .... | .... |
| *Glens Falls* | 9,509 | 15 | 18.90 | 4 | 26.6 | 260.00 | 1 | .... |
| *Whitehall* | 4,484 | 7 | 19.10 | 4 | .... | ..... | .... | .... |
| Fort Edward | 4,382 | 11 | 24.57 | 4 | 40.0 | 400.00 | .... | .... |
| Kingsbury | 5,112 | 5 | 10.00 | 0 | .... | ..... | .... | .... |
| Granville | 5,281 | 9 | 20.00 | 1 | .... | ..... | .... | .... |
| Salem | 3,107 | 6 | 22.80 | 1 | .... | ..... | .... | .... |
| Greenwich | 4,431 | 10 | 27.10 | 4 | 40.0 | 300.00 | .... | 1 |
| Rest of District | ..... | 248 | ..... | 36 | 14.5 | 64.50 | .... | 1 |
| MOHAWK VALLEY DISTRICT: | | | | | | | | |
| Totals | ..... | 512 | ..... | 106 | 20.0 | 120.01 | 1 | 11 |
| SCHENECTADY | 22,858 | 53 | 27.82 | 14 | 26.4 | 169.81 | .... | 4 |
| Cobleskill | 3,436 | 3 | 11.00 | 1 | .... | ..... | .... | .... |
| AMSTERDAM | 18,542 | 24 | 15.53 | 7 | 29.2 | 166.67 | .... | 2 |
| *Fort Plain* | 3,000 | 2 | 8.00 | 0 | .... | ..... | .... | .... |
| *Johnstown* | 7,768 | 11 | 16.94 | 3 | 27.3 | ..... | .... | .... |
| GLOVERSVILLE | 14,094 | 24 | 19.60 | 10 | 41.6 | 41.67 | 1 | .... |
| *Little Falls* | 8,783 | 8 | 11.00 | 0 | .... | 125.00 | .... | 1 |
| *Herkimer* | 3,000 | 2 | 8.00 | 2 | .... | 500.00 | .... | .... |
| *Ilion* | 4,057 | 9 | 26.64 | 0 | .... | ..... | .... | .... |
| UTICA | 46,608 | 72 | 18.57 | 14 | 19.5 | 55.55 | .... | .... |
| Whitestown | 5,225 | 10 | 23.00 | 1 | 10.0 | 300.00 | .... | .... |
| ROME | 13,638 | 13 | 12.00 | 3 | 23.0 | ..... | .... | .... |
| Boonville | 3,512 | 3 | 10.00 | 1 | 33.3 | ..... | .... | .... |
| Camden | 3,675 | 3 | 10.00 | 0 | .... | ..... | .... | .... |
| Waterford | 5,522 | 20 | 43.40 | 6 | 30.0 | 100.00 | .... | .... |
| *Ballston Spa* | 3,527 | 11 | 37.40 | 4 | 36.4 | 191.90 | .... | .... |
| *Saratoga Springs* | 12,000 | 20 | 20.00 | 6 | 33.3 | 100.00 | .... | .... |
| Rest of District | ..... | 224 | ..... | 34 | 10.7 | 138.32 | .... | 4 |
| SOUTHERN TIER DISTRICT: | | | | | | | | |
| Totals | ..... | 475 | ..... | 82 | 17.2 | 145.25 | 1 | 7 |
| BINGHAMTON | 34,514 | 64 | 22.10 | 17 | 26.5 | 109.37 | .... | .... |
| *Owego* | 6,000 | 7 | 14.00 | 0 | .... | ..... | .... | .... |
| Candor | 3,525 | 8 | 27.20 | 3 | 37.5 | ..... | .... | .... |
| *Waverly* | 4,123 | 4 | 12.00 | 1 | 25.0 | ..... | .... | .... |
| ELMIRA | 30,000 | 40 | 16.00 | 8 | 20.0 | 150.00 | .... | 1 |
| *Horseheads* | 3,319 | 2 | 7.22 | 0 | .... | .... | .... | .... |

FOR MARCH —(*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | .... | .... | .. | .... | .... | .. | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | 1 | 1 | 2 | .... | .... | 2 | .... |
| ... | .... | .. | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .... | .... | 1 | 1 | .... | 2 | 2 |
| ... | .... | .. | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | .... | 3 | .... | .... | .... | 1 |
| .. | .... | .. | .... | .... | .... | .... | .... | 2 | 1 | .... | 2 | .... | 2 | .. | .... | .... | .... | 1 |
| ... | .... | 1 | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... |
| ... | .... | 5 | 5 | .... | 6 | 16 | 6 | 71 | 30 | 9 | 18 | 21 | 36 | 70 | 14 | 11 | 42 | 30 |
| ... | .... | 5 | 2 | .... | 6 | 13 | 8 | 73 | 48 | 8 | 22 | 20 | 41 | 39 | 18 | 13 | 55 | 50 |
| ... | ... | 1 | ... | .... | 3 | 2 | .... | 5 | 2 | 1 | 3 | .... | 5 | 2 | 1 | .... | 6 | 2 |
| ... | .... | .... | .. | .... | .... | .... | .... | 1 | 1 | .... | .. | .... | 2 | 2 | .... | .... | 3 | 1 |
| ... | .... | .... | 1 | .... | .... | .... | .... | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | 1 | 1 |
| ... | .. | .... | .... | .... | 2 | 1 | 1 | 4 | 3 | 1 | .... | .. | 1 | 4 | .... | .... | 1 | 5 |
| ... | .. | .... | .... | .... | .... | .... | .... | 1 | 4 | .... | 1 | .... | .... | .... | 2 | .... | 1 | 2 |
| ... | .. | .... | .... | .... | .... | .... | .... | 3 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | 1 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | 3 | 3 | 2 | .... | .... | 1 | 3 | 1 | .... | .... | 1 | 2 |
| ... | .... | .... | .... | .... | .... | 2 | .... | 4 | .... | 1 | 1 | 1 | .... | 3 | .... | .... | .... | 2 |
| ... | .... | 2 | .... | .... | .... | 2 | .... | 3 | 3 | .... | 2 | .... | 1 | 1 | .... | 1 | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | 1 | .... | 1 | .... | .... | .... | 1 | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | .... | .... | 2 | 2 | 1 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | 2 | 4 | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| ... | .... | 2 | 1 | .... | 1 | 6 | 1 | 36 | 26 | 3 | 15 | 14 | 25 | 20 | 15 | 10 | 39 | 29 |
| 2 | ... | 1 | 7 | 4 | 3 | 20 | 12 | 77 | 50 | 5 | 29 | 34 | 51 | 79 | 16 | 7 | 60 | 43 |
| 1 | .... | .... | .... | 1 | .... | .... | 4 | 6 | 2 | 1 | 7 | 6 | 5 | 5 | 2 | .. | 5 | 5 |
| ... | .... | .... | .... | .... | .... | 2 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 4 | 5 | .... | 1 | 1 | 1 | 1 | 1 | .... | 4 | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | .... | .... | 2 | 2 | .... | .... | 1 | 2 |
| ... | .. | .... | .... | .... | .... | .... | .... | 4 | 2 | .... | .... | 2 | 6 | 4 | 1 | .... | .... | 4 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 3 | 1 | .... | 1 | .... | 1 |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | 1 | 2 | .... | .... | 2 | 1 | .... |
| ... | .... | .... | .... | .... | .... | 2 | 2 | 10 | 9 | ... | 7 | 6 | 6 | 21 | 4 | 1 | 3 | 1 |
| ... | .... | .... | .... | .... | .... | 3 | .... | 1 | .... | .... | 2 | .... | .... | 2 | 1 | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | 2 | 1 | 1 | 1 | 1 | .... | 3 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... |
| ... | .... | .... | 2 | .... | .... | 2 | .... | 4 | 3 | .... | .. | .... | 2 | 2 | .... | .... | 5 | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | 1 | 2 | 3 | .... | .... | 1 | .... |
| 1 | .... | 1 | 5 | 3 | 3 | 8 | 6 | 38 | 24 | 3 | 8 | 13 | 20 | 33 | 4 | 2 | 31 | 22 |
| ... | ... | 7 | 7 | 3 | 2 | 39 | 3 | 78 | 33 | 4 | 43 | 17 | 37 | 56 | 26 | 21 | 55 | 36 |
| ... | .... | ... | 3 | .... | 1 | 2 | 1 | 13 | 8 | 1 | 3 | 3 | 4 | 7 | 4 | 4 | 6 | 4 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 1 | .... | 2 | .... | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | 2 | .... | .... | .... | 1 | .... | 2 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | .... |
| ... | .... | 2 | 1 | .... | .... | 2 | .... | 10 | 5 | 1 | 5 | .... | 4 | 1 | 3 | 1 | 1 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | 2 | 3 | 2 | 1 | 1 | .... | 3 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. |
|---|---|---|---|---|---|---|---|
| SOUTHERN TIER DIST.—(*Cont'd*): | | | | | | | |
| HORNELLSVILLE | 11,898 | 16 | 16.35 | 2 | 12.5 | 62.50 | .... |
| *Ba'h* | 3,261 | 7 | 25.76 | 0 | ... | ..... | ... |
| CORNING | 10,025 | 26 | 30.86 | 3 | 11.5 | 269.20 | .... |
| Wellsville | 5,033 | 2 | ... | 0 | ... | ..... | ... |
| *Olean* | 7,358 | 12 | 19.56 | 2 | 16.7 | 250.00 | .... |
| *Salamanca* | 3,700 | 5 | 10.20 | 0 | ... | 400.00 | ... |
| JAMESTOWN | 18,627 | 38 | 24.47 | 21 | 55.2 | 47.35 | .... |
| *Westfield* | 3,000 | 3 | 12.00 | 0 | ... | ..... | ... |
| *Fredonia* | 3,400 | 13 | ..... | 1 | 7.7 | 77.70 | .... |
| Rest of District | .... ..... | 228 | ..... | 24 | 10.4 | 104.35 | 1 |
| EAST CENTRAL DISTRICT: | | | | | | | |
| Totals | ..... | 516 | ... | 107 | 20.8 | 100.00 | 1 |
| SYRACUSE | 91,944 | 133 | 17.35 | 40 | 30.0 | 142.85 | ... |
| *Baldwinsville* | 3,040 | 3 | 12.00 | 0 | ... | ... | ... |
| DeWitt | 5,182 | 8 | 18.46 | 4 | 50.0 | ..... | .... |
| *Cortland* | 8,590 | 18 | 25.11 | 4 | 22.2 | 111.11 | .... |
| *Homer* | 3,000 | 3 | 12.00 | 1 | 33.3 | ..... | .. |
| *Oneida* | 6,083 | 13 | 25.52 | 1 | 7.7 | 77.00 | ... |
| Hamilton | 4,110 | 8 | 23.36 | 2 | 25.0 | ..... | .... |
| Cazenovia | 3,803 | 3 | 10.00 | 0 | .... | ..... | .... |
| Brookfield | 3,235 | 4 | ..... | 0 | ... | ..... | ... |
| *Norwich* | 5,212 | 14 | 32.34 | 5 | 35.7 | 214.28 | .. |
| *Oneonta* | 6,776 | 9 | 17.21 | 4 | 44.4 | 111.11 | ... |
| Worcester | 2,670 | 4 | 9.10 | 0 | .... | ..... | .... |
| *Cooperstown* | 3,000 | 2 | 8.00 | 0 | .... | ..... | ... |
| Walton | 4,811 | 11 | 27.50 | 7 | 62.6 | 90.90 | .... |
| Delhi | 3,000 | 8 | 32.00 | 1 | 12.5 | 250.00 | .... |
| Liberty | 3,471 | 3 | 11.00 | 6 | 66.6 | ..... | .... |
| Rest of District | ..... .. | 272 | . ... | 36 | 13.2 | 82.00 | 1 |
| WEST CENTRAL DISTRICT: | | | | | | | |
| Totals | ... . .... | 376 | .. ... | 57 | 15.2 | 50.53 | .. |
| AUBURN | 24,737 | 48 | 23.28 | 10 | 20.5 | 62.50 | .... |
| ITHACA | 13,460 | 12 | 10.00 | 1 | 8.3 | ..... | .... |
| *Waterloo* | 4,350 | 5 | 13.80 | 1 | 20.0 | 200.00 | ... |
| *Seneca Falls* | 6,116 | 8 | 15.85 | 1 | 12.5 | ..... | ... |
| *Geneva* | 7,557 | 12 | 19.00 | 3 | 25.0 | 333.33 | ... |
| *Canandaigua* | 5,868 | 9 | 18.42 | 1 | 11.1 | ..... | ... |
| Manchester | 4,181 | 7 | 19.95 | 0 | ... | ..... | .... |
| Phelps | 5,150 | 5 | 12.00 | 0 | ... | ..... | ... |
| *Penn Yan* | 4,254 | 4 | 11.86 | 0 | ... | ..... | .. |
| *Batavia* | 7,221 | 10 | 16.60 | 1 | 10.0 | ..... | ... |
| *Dansville* | 3,758 | 3 | 10.00 | 0 | .... | 33.03 | ... |
| *Le Roy* | 3,000 | 5 | 20.00 | 0 | ... | ..... | ... |
| Warsaw | 4,700 | 6 | 15.35 | 1 | 16.7 | 166.67 | ... |
| Rest of District | ..... | 242 | ..... | 38 | 15.8 | 42.50 | .... |
| LAKE ONTARIO & WEST. DIST.: | | | | | | | |
| Totals | ..... | 917 | ..... | 257 | 28.0 | 120.00 | 7 |
| BUFFALO | 290,000 | 380 | 15.71 | 129 | 33.1 | 126.32 | 5 |
| TONAWANDA | 7,145 | 13 | 21.84 | 6 | 46.1 | 153.80 | ... |
| Amherst | 3,960 | 3 | 10.00 | 1 | 33.3 | 333.33 | ... |
| *North Tonawanda* | 4,800 | 11 | 27.50 | 6 | 54.5 | 272.73 | ... |
| LOCKPORT | 16,088 | 19 | ..... | 6 | 30.3 | 105.23 | ... |
| NIAGARA FALLS | 5,302 | 7 | 15.30 | 1 | 14.2 | ..... | ... |
| *Medina* | 4,500 | 7 | 18.69 | 4 | 57.1 | 142.85 | ... |
| *Albion* | 4,536 | 9 | 23.49 | 2 | 22.2 | .... | ... |
| *Brockport* | 3,742 | 3 | 10.00 | 0 | ... | ... | ... |
| ROCHESTER | 144,834 | 189 | 15.22 | 49 | 25.8 | 142.10 | .... |

FOR MARCH — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1 | 1 | | 1 | 2 | 3 | 2 | 1 | 1 | | 3 |
| | | 1 | | | | 5 | | 1 | | | 1 | | 1 | 2 | 1 | | 1 | |
| | | | | | | | | 3 | 1 | | | 2 | 3 | 2 | 1 | 2 | 3 | 2 |
| | | 2 | | | | | | | | | 1 | | 1 | | | | | |
| | | | | 1 | | 1 | 1 | 1 | 1 | | 2 | | 1 | | | 1 | 2 | 1 |
| | | | | | | 16 | | 4 | 2 | | 8 | 1 | 1 | 4 | | | | |
| | | | | | | | | | | | | | 1 | 1 | 1 | | | |
| | | | | | | 1 | | 3 | | | 6 | 1 | 1 | | | | 1 | |
| | | 2 | 3 | 2 | 1 | 12 | 1 | 36 | 14 | 1 | 13 | 7 | 14 | 37 | 14 | 10 | 37 | 21 |
| 2 | | | 14 | 3 | 4 | 20 | 2 | 107 | 39 | 5 | 34 | 23 | 52 | 64 | 17 | 14 | 74 | 36 |
| 1 | | | 8 | | | 8 | | 19 | 17 | 4 | 8 | 3 | 7 | 20 | 7 | 1 | 14 | 14 |
| | | | | | | | | | 1 | | 1 | | | | | | 1 | |
| | | | | | | | | 4 | | | 1 | | | 1 | | | 1 | 1 |
| | | | | | | 2 | | 4 | 2 | | 2 | 2 | | 3 | 1 | | 2 | |
| | | | | | | | | | | | | | | | 1 | | 1 | 1 |
| | | | | | | 1 | | 2 | | | 1 | | | 1 | | 4 | 3 | |
| | | | | | | | | 2 | | | 1 | | 2 | 1 | | | 2 | |
| | | | | | | | | | 1 | | | | | | | | 2 | |
| | | | | | | | | | | | | | 1 | 1 | | | 2 | |
| | | | | 1 | 1 | 1 | | 3 | | | | | | | 1 | 2 | 2 | 3 |
| | | | 1 | | | | | 3 | | | 1 | | | 3 | | 1 | | |
| | | | | | | | | | | | | 1 | 2 | | | | | |
| | | | | | | | | 2 | | | | | | | | | | |
| | | | | | 1 | 1 | 1 | 4 | | | 1 | 1 | 1 | 1 | | | 1 | 1 |
| | | | | | | | | | | | 1 | | 2 | | | | 2 | 1 |
| | | | | | | | | 1 | | | | | | 1 | | | | 1 |
| 1 | | | 5 | 2 | 2 | 7 | 2 | 63 | 18 | 1 | 17 | 16 | 35 | 32 | 7 | 6 | 41 | 14 |
| | | 2 | 1 | 2 | 1 | 8 | 2 | 57 | 49 | 5 | 32 | 16 | 46 | 47 | 12 | 7 | 51 | 35 |
| | | | | | | 3 | | 8 | 10 | 1 | 3 | 2 | 2 | 7 | 2 | | 2 | 8 |
| | | | | | | | | 1 | | | | | 2 | 3 | 2 | 1 | 2 | 1 |
| | | | 1 | | | | | | | | | | | 1 | | | 2 | 1 |
| | | | | | | | | | 5 | | | | 1 | | | | 1 | 1 |
| | | | | | | 4 | | 1 | | | | 1 | 4 | 1 | | | 1 | |
| | | | | | | | | 3 | 1 | | | | 1 | 1 | | | 2 | 1 |
| | | | | | | | | 2 | | | 1 | 1 | | | | 1 | 2 | |
| | | | | | | | | | | | 2 | | | 1 | | | 1 | 1 |
| | | | | 1 | | | | 1 | | | | 1 | 1 | 4 | | | 3 | |
| | | | | | | | | | 2 | | | | 1 | 1 | | | 1 | |
| | | | | | | | | | | | | | 1 | | | | 1 | 1 |
| | | 2 | | 1 | 1 | 1 | 2 | 41 | 29 | 4 | 24 | 11 | 33 | 27 | 8 | 5 | 31 | 20 |
| 2 | | 31 | 2 | 5 | 8 | 42 | 4 | 160 | 103 | 7 | 77 | 45 | 76 | 127 | 37 | 42 | 50 | 84 |
| 1 | | 12 | 1 | 3 | 6 | 14 | 1 | 69 | 48 | 4 | 34 | 15 | 36 | 58 | 14 | 15 | 9 | 30 |
| | | | | | | 1 | 1 | 1 | | | 2 | | | 2 | | 3 | | 3 |
| | | 1 | | | | | | 1 | | | | | | | 1 | | | |
| | | | | | | 2 | | 2 | | | | | | 1 | 2 | 1 | | 2 |
| | | | | | | | | 6 | 1 | 1 | | | 4 | 1 | | | | 4 |
| | | | | | | | | 1 | 1 | | 1 | 2 | | | | 2 | | |
| | | | | | 1 | | | 3 | | | | | | | 1 | | | 2 |
| | | | | | | | | 3 | | | | | 2 | 1 | | | 1 | 2 |
| | | | | | | | | | | | | 1 | 1 | | | 1 | | |
| 1 | | 9 | | 1 | | 15 | 1 | 34 | 28 | | 16 | 10 | 13 | 24 | 5 | 8 | 9 | 15 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONTARIO AND WESTERN DISTRICT— (*Continued*): | | | | | | | | |
| Palmyra | 4,173 | 4 | 11.43 | 0 | ... | ..... | ... | ... |
| *Newark* | 3,000 | 5 | 20.00 | 2 | 40.0 | 200.00 | .... | .... |
| Lyons | 6,127 | 14 | 27.30 | 2 | 14.2 | 71.20 | .... | .... |
| *Clyde* | 3,000 | 2 | 8.00 | 0 | .... | .... .. | .... | .... |
| OSWEGO | 21,966 | 25 | 13.65 | 4 | 16.0 | 20.00 | .... | .... |
| *Fulton* | 4,214 | 4 | 11.50 | 0 | .... | 250.00 | .... | 1 |
| Richland | 3,637 | 8 | 25.47 | 2 | 25.0 | 250.00 | .... | .... |
| Rest of District | ..... .. . | 214 | ..... | 43 | 20.2 | 88.96 | 1 | .... |
| Totals for the State | ..... .. | 12,000 | ..... | 3,418 | 28.5 | 121.17 | 69 | 122 |
| Av'ge for March for past 8 years | ..... | 9,216 | ..... | 2,766 | 30.1 | 143.45 | 54 | 83 |
| Totals for February, 1893 | ..... .... | 9,353 | ..... | 2,774 | 29.6 | 136.28 | 45 | 103 |

REMARKS.—There were 12,000 deaths reported in March, or 387 daily, which is 53 more than in than 2,000 deaths more than the normal for the month. The rate of mortality is increased in all however, in the maritime district, where, allowing for the greater length of the month, there were the 12,000 deaths occurring in New York and Brooklyn. There is a relative diminution in the change from the recent prevalence of the more important of the diseases of this class; cerebro- from acute respiratory diseases has risen from 1,900 in February to almost 3,000, which has been deaths from this cause than in March, 1892, when an epidemic, then waning, caused 1,500 deaths. This increase in mortality from diseases of the respiratory organs appears in all the sanitary month above the normal is due to lung diseases and the rest is distributed through the other local epidemic influenza, the mortality from which was probably about 1,800. A single case of typhus from it in Long Island City. There were seven deaths from scarlet fever in Massenna, St. Law-

ɔRK STATE BOARD OF HEALTH.

*ıtricts, cities and towns during April*, 1893.

:. For boundaries of *Sanitary Districts* see Annual Summary.]

| Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 130 | 41 | 36 | 108 | 292 | 93 | 2,177 | 843 | 67 | 233 | 436 | 447 | 802 | 147 | 233 | 176 | 933 |
| 11 | 86 | 27 | 22 | 65 | 193 | 74 | 1,311 | 554 | 43 | 197 | 262 | 246 | 404 | 89 | 152 | 47 | 689 |
| 1 | 32 | 12 | 11 | 29 | 74 | 13 | 664 | 187 | 17 | 95 | 132 | 116 | 270 | 36 | 53 | 52 | 163 |
| ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | 1 | ..... | 4 | ... | 1 | ... | 1 |
| ... | .... | . | .... | ... | 1 | ..... | 3 | 2 | ... | ..... | 1 | ... | 3 | 2 | .. | .. | 3 |
| ... | ... | ... | .... | 2 | 1 | ..... | 22 | 4 | 3 | 2 | 2 | 3 | 14 | 2 | 5 | 4 | 7 |
| ... | 4 | ... | .... | 22 | 2 | ..... | 14 | 2 | ... | 1 | 1 | 4 | 6 | 22 | 3 | 2 | 4 |
| ... | ... | ... | .... | ... | 2 | ..... | 7 | 3 | ... | ... | 1 | 2 | 5 | ... | 1 | 3 | 2 |
| ... | 1 | .... | .... | 2 | 1 | ..... | 13 | 1 | 1 | 3 | 2 | 6 | 3 | 2 | . | 6 | 5 |
| ... | ... | ... | .. | 1 | 1 | ... | 6 | 1 | .. | ..... | 1 | 1 | 2 | 1 | 2 | 1 | 2 |
| 1 | 1 | .... | 1 | 3 | 2 | 1 | 7 | 4 | ... | 1 | 1 | ... | 6 | 1 | .. | 3 | 6 |
| ... | 2 | ... | .... | 1 | 2 | 1 | 13 | 12 | ... | 1 | 1 | 2 | 7 | ... | 2 | 3 | 3 |
| ... | .... | ... | .... | .... | .... | ..... | . | ..... | ... | 1 | ... | 3 | 1 | .... | .. | 1 | 1 |
| ... | ... | .... | ... | .... | .... | ..... | 2 | ..... | .... | . | ... | ... | .. | .... | .. | .. | 1 |
| ... | 1 | .. | .... | .... | .... | ..... | .. | 1 | .... | 1 | 1 | ..... | 2 | .... | ... | 2 | .... |
| . | .. | .... | .... | .... | .... | ..... | 1 | 3 | ... | 3 | 2 | 4 | 3 | 1 | . | 2 | .... |
| ... | ... | .... | .... | .... | .... | ..... | 8 | 1 | 1 | 1 | 2 | 3 | 7 | .. | .. | .. | 2 |
| ... | 1 | .... | .... | 2 | 1 | .... | 2 | 3 | ... | 2 | 1 | 2 | 1 | ... | 1 | 5 | 2 |
| .... | .. | ... | .. | .. | .. | 2 | 4 | 1 | .. | 1 | .... | 2 | 1 | ... | 2 | 1 | 3 |
| ... | ... | ... | ... | ... | 1 | 1 | 4 | 1 | ... | ..... | ... | 2 | ... | ... | ... | 1 | 1 |
| ... | . | .... | 1 | .... | .. | .... | 13 | 6 | ... | 5 | 3 | 5 | 10 | .... | .. | 2 | 2 |
| .. | ... | .... | .... | .... | 3 | .... | 5 | 3 | .... | ..... | 1 | 1 | 2 | .. | 1 | 2 | . |
| ... | .... | .... | .... | .... | .. | .... | 5 | 2 | ... | 1 | .... | 2 | 4 | 1 | 2 | 1 | 2 |
| ... | ... | 1 | .... | .... | . | .... | 7 | 1 | . | 2 | 4 | 4 | 4 | 1 | .. | 2 | 2 |
| ... | 1 | .. | .. | ... | ... | .... | 3 | 1 | . | ..... | 2 | 2 | 2 | 1 | ... | 1 | 1 |
| ... | .... | ... | .... | .... | 1 | .. | 2 | 3 | .... | 1 | 2 | 2 | 2 | .. | .. | 3 | ... |
| ... | .... | .... | .... | .... | 2 | .... | 2 | 1 | ... | 1 | . | 1 | 2 | 1 | 2 | 1 | 3 |
| .. | 1 | 1 | ... | ... | 1 | ..... | 1 | 1 | .... | 2 | 1 | 1 | 3 | 1 | .... | .. | 2 |
| ... | 1 | 1 | ... | ... | ... | .... | 3 | ..... | .... | 1 | ... | 3 | 1 | ... | ... | 1 | 1 |
| 10 | ... | ... | 1 | 1 | 5 | 2 | 54 | 44 | 2 | 11 | 12 | 30 | 33 | 6 | 6 | 30 | 25 |
| ... | 14 | 4 | 6 | 5 | 42 | 20 | 235 | 129 | 10 | 90 | 54 | 112 | 160 | 40 | 48 | 79 | 91 |
| .. | 2 | ... | ... | 2 | 7 | 3 | 31 | 29 | 1 | 13 | 7 | 18 | 28 | 7 | 9 | 5 | 13 |
| .. | 1 | .... | ... | . | 5 | 5 | 10 | 3 | 1 | 5 | 3 | 3 | 9 | .. | 1 | 3 | 15 |
| .... | 3 | .. | .... | 1 | 5 | 4 | 36 | 15 | .... | 11 | 4 | 17 | 19 | 4 | 7 | 4 | 6 |
| .... | .... | .. | .. | .. | 2 | 1 | 7 | 3 | .... | ..... | 1 | 3 | 2 | 2 | 2 | 4 | 4 |
| .... | ... | ... | 1 | ... | ... | ..... | 4 | ..... | ... | 1 | .. | ... | .... | ... | 1 | .. | 1 |
| .... | 1 | .... | 1 | .... | ... | ..... | 5 | .. | .... | 2 | 1 | 3 | 2 | .... | .... | .... | 1 |
| .... | ... | .... | .... | .... | 1 | .. | 1 | 1 | .... | 1 | 1 | 1 | 2 | .... | .... | .... | 2 |
| .... | 1 | .... | .... | .... | 1 | .. | 2 | 2 | 1 | 1 | .. | 2 | .... | .... | .... | .... | 1 |
| .... | 1 | .... | .... | .... | 2 | ..... | 2 | ..... | .... | 1 | .. | 1 | .... | 1 | .... | 1 | .... |
| .... | 2 | .... | 1 | .... | 1 | 1 | 2 | 3 | .... | 1 | 1 | 4 | 2 | 2 | .... | .... | 1 |
| .... | .. | .... | .... | .... | 2 | 1 | 10 | 5 | .... | 4 | 2 | 5 | 2 | .... | 2 | 1 | .... |
| .... | .. | ... | .... | .... | .... | .... | ..... | .. | .... | ..... | ... | 3 | ..... | 1 | ... | 1 | .... |
| .... | .... | 3 | .... | .... | 1 | .... | ..... | 1 | .... | .. | ... | 1 | 1 | 1 | .... | .... | .... |
| .... | .... | .... | .... | .... | .... | .... | 3 | 2 | .... | 2 | .... | .. | 3 | .... | .... | .... | 1 |
| .... | .... | .... | .... | .... | .... | 1 | 3 | . | 1 | .. | 1 | .... | 1 | 1 | .... | 3 | 1 |
| .... | .... | .... | .... | .... | .... | .... | 2 | 2 | 1 | .. | .... | 1 | 1 | .... | .... | 1 | .... |
| .... | .... | .... | 1 | 1 | .... | 2 | 2 | 4 | 1 | 3 | 8 | 5 | 9 | 1 | 2 | 6 | 4 |
| . | .... | .... | .... | .... | .... | .... | 2 | ..... | .... | 1 | 1 | 1 | 1 | .. | 2 | 2 | .... |
| .... | .... | .... | .... | .... | .... | ..... | 4 | 2 | .... | ... | .... | ..... | 2 | 1 | 1 | .. | 2 |
| .... | 1 | .... | .... | .... | 1 | .... | 8 | 2 | .... | 2 | 4 | 5 | 2 | .... | 1 | 3 | 2 |
| .... | .... | .... | .... | .... | 2 | .... | 3 | 1 | .... | ..... | ... | 2 | 6 | .... | 3 | 22 | 3 |

MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths and causes in the following*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Roman

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| **MARITIME DISTRICT:** | | | | | | | | |
| Totals | | 7,455 | | 2,468 | 33 1 | 115.48 | 32 | 38 |
| NEW YORK CITY | 1,860,803 | 4,562 | 29.79 | 1,576 | 34.5 | 124.50 | 54 | 23 |
| BROOKLYN | 978,394 | 1,990 | 24.48 | 676 | 34.0 | 102.60 | 19 | 9 |
| Gravesend | 8,418 | 9 | 12.87 | 1 | 11.1 | | | |
| New Utrecht | 9,129 | 15 | 19.65 | 5 | 33.3 | 66.66 | | |
| LONG ISLAND CITY | 35,745 | 73 | 23 46 | 18 | 24.7 | 68.50 | 2 | |
| Newtown | 19,776 | 48 | 28.80 | 15 | 31 25 | 187.50 | 1 | |
| Oyster Bay | 14,887 | 26 | 20.80 | 6 | 23.1 | 76.85 | | |
| Hempstead | 23,991 | 46 | 23.10 | 7 | 15.2 | 87.00 | | |
| North Hempstead | 8,726 | 19 | 26.22 | 6 | 31.5 | 105.26 | | |
| Jamaica | 17,654 | 38 | 25.84 | 16 | 42.1 | 236.85 | | |
| Flushing | 20,816 | 50 | 28.85 | 21 | 42.0 | 120.00 | | |
| Southold | 7,671 | 9 | 14.04 | 1 | 11.1 | 222.22 | | |
| *Sag Harbor* | 3,000 | 3 | 12.00 | 2 | 66.6 | | | |
| Huntington | 8,253 | 8 | 12.00 | 0 | | 125.00 | | |
| Brookhaven | 13,493 | 19 | 15.10 | 3 | 15 8 | | | |
| *New Brighton* | 16,423 | 25 | 18.28 | 5 | 20.0 | 40.00 | | 1 |
| *Edgewater* | 14,265 | 24 | 20.16 | 7 | 29.1 | 208.30 | | 1 |
| *Port Richmond* | 6,390 | 17 | | 5 | 29.4 | 117.85 | | |
| Westfield | 8,648 | 11 | 15.30 | 2 | 18.1 | 181.81 | | |
| YONKERS | 34,000 | 47 | 16.60 | 16 | 34.0 | 21.40 | | |
| Westchester | 8,326 | 18 | 25.92 | 5 | 27.2 | 166.67 | | 1 |
| Greenburgh | 11,630 | 20 | 20.60 | 2 | 10. | | | |
| MOUNT VERNON | 10,830 | 29 | | 6 | 20.7 | 69.00 | 1 | |
| *Port Chester* | 5,274 | 14 | 30.10 | 5 | 35.7 | 71.43 | | |
| *Sing Sing* | 9,352 | 16 | 20.52 | 2 | 12.5 | 125.00 | | |
| *New Rochelle* | 8,217 | 16 | 23.10 | 5 | 31.2 | 125.00 | | |
| *Peekskill* | 9,676 | 13 | 16.12 | 5 | 38.4 | 77.00 | | |
| *White Plains* | 4,042 | 12 | 35.50 | 2 | 16.7 | 166.67 | | |
| Rest of District | | 278 | | 48 | 17.4 | 90.75 | 5 | 1 |
| **HUDSON VALLEY DISTRICT:** | | | | | | | | |
| Totals | | 1,193 | | 238 | 20.0 | 120.85 | 8 | 36 |
| ALBANY | 98,000 | 189 | 23.00 | 47 | 25.0 | 147.37 | 2 | 10 |
| COHOES | 23,234 | 62 | 32.00 | 24 | 38.7 | 145.00 | | 3 |
| TROY | 64,986 | 142 | 26.25 | 34 | 23.8 | 140.81 | 2 | 4 |
| *West Troy* | 12,967 | 34 | 31.28 | 4 | 11.8 | 176.20 | | 3 |
| *Green Island* | 4,463 | 10 | 26.90 | 1 | 10.0 | 300.00 | | 2 |
| *Lansingburgh* | 10,550 | 17 | 19.33 | 2 | 11.7 | 117.68 | | |
| *Hoosick Falls* | 7,014 | 11 | 18.81 | 2 | 18.2 | 181.81 | | 1 |
| *Greenbush* | 7,462 | 12 | 19.73 | 3 | 25.0 | 250.00 | 1 | |
| Coxsackie | 3,824 | 9 | 28.62 | 2 | 22.2 | 333.33 | | |
| HUDSON | 9,633 | 18 | 22.32 | 2 | 11.1 | 55.55 | | |
| KINGSTON | 21,500 | 38 | 21.28 | 11 | 29.0 | 184.21 | 1 | |
| *Ellenville* | 3,000 | 5 | 20.00 | 0 | | | | |
| Marbletown | 3,689 | 8 | 26.96 | 1 | 12.5 | 500.00 | | |
| Rosendale | 6,125 | 13 | 25.48 | 5 | 38 4 | 153.82 | | |
| Esopus | 5,035 | 12 | 28.80 | 3 | 25.0 | 83.33 | | |
| *Saugerties* | 4,237 | 9 | 25.47 | 0 | | 111.11 | | 1 |
| POUGHKEEPSIE | 23,200 | 63 | 32.57 | 7 | 11.1 | 174.60 | | 5 |
| *Fishkill* | 3,617 | 10 | 33.15 | 1 | 10.0 | | | |
| *Wappinger Falls* | 3,718 | 15 | | 5 | 33.3 | 200.00 | | 3 |
| NEWBURGH | 24,536 | 31 | 15.20 | 6 | 19.4 | 64.50 | | |
| *Port Jervis* | 9,327 | 21 | 26.88 | 3 | 14.3 | 99.02 | | |

OR APRIL — (*Continued*).

| Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | .. | .... | .. | .... | .... | 7 | 3 | .. | 3 | 1 | 1 | 6 | ... | 1 | 2 | 2 |
| .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | ... |
| .... | .... | .... | .... | .. | .... | .... | 2 | 3 | .... | 2 | 1 | .... | .... | .... | .... | .... | .... |
| .... | .... | .... | .... | .. | .... | .... | 2 | 1 | .... | .... | 1 | 1 | 1 | .... | 1 | 1 | .... |
| .... | .... | .... | .... | .. | .... | .... | 1 | .... | .... | .... | .... | 2 | 3 | .... | .... | 1 | .... |
| .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| .... | .... | .... | .... | .... | 1 | .... | 2 | 1 | .... | .... | .... | 1 | 1 | .... | .... | 2 | .... |
| .. | 2 | 1 | 2 | 1 | 16 | 2 | 75 | 45 | 4 | 37 | 17 | 32 | 55 | 18 | 15 | 35 | 33 |
| ... | 4 | 1 | 1 | 6 | 15 | 3 | 85 | 62 | 7 | 33 | 16 | 43 | 53 | 21 | 11 | 58 | 54 |
| .... | 1 | ... | .. | 2 | 1 | .... | 8 | 2 | ... | 2 | 1 | 4 | 4 | 1 | ... | 2 | 7 |
| .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .. | 3 | .... | .... | .... | .... |
| .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | 1 | .... | .... | 1 | .... | .... | 1 | 1 |
| .... | .... | 1 | .... | .... | .... | 1 | 1 | 3 | .... | .... | .... | .... | .... | .... | .... | 1 | .... |
| .... | .... | .... | .... | .... | .... | .... | 2 | 2 | .... | .... | 1 | 2 | .... | 2 | .... | 1 | 5 |
| .. | .... | .... | .... | .. | .... | .... | .... | 4 | .... | .... | .... | 1 | 1 | .... | .... | 4 | .... |
| .... | 1 | .... | .... | 1 | .. | 1 | 1 | 1 | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 |
| .... | .... | .... | 1 | .... | .. | .... | 1 | 2 | .... | 1 | 1 | .... | .... | 2 | .... | .... | .... |
| .... | .... | .... | .... | .... | 2 | .... | 1 | 1 | .... | 1 | .... | 1 | .... | .... | .... | 2 | 3 |
| .... | .... | .... | .... | .... | 2 | .... | .... | 1 | 1 | .... | 1 | 2 | 2 | .... | .... | 1 | 2 |
| .... | .... | .... | .... | .... | 1 | .... | 3 | 1 | .... | .... | 1 | 2 | 1 | .... | .... | 2 | 1 |
| .. | .. | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| .... | .... | .... | .... | .... | .... | .... | 4 | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | 1 |
| .... | .... | .... | .... | .... | .... | .... | 4 | 2 | .... | 1 | .. | 2 | 3 | .... | .... | 1 | 1 |
| .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .. |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | .... | .... | .... | .... | .... |
| .... | .... | .... | .... | .... | 1 | .... | 4 | .... | .... | 1 | .... | .... | 2 | 1 | .... | 1 | 1 |
| .. | 2 | .... | .... | 3 | 8 | 1 | 50 | 37 | 6 | 26 | 11 | 27 | 33 | 14 | 10 | 42 | 31 |
| .. | 6 | 3 | 2 | 3 | 14 | 11 | 93 | 47 | 5 | 39 | 29 | 49 | 68 | 13 | 17 | 49 | 25 |
| .... | .... | .... | 1 | .... | 3 | 8 | 10 | 7 | ... | 6 | 2 | 2 | 5 | 1 | .... | 2 | 3 |
| .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | 2 | .... |
| .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 2 | 1 | 5 | 6 | 1 | .... | 1 | ... |
| .... | .. | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... |
| .... | .... | 1 | .... | .... | 1 | .... | 2 | 1 | .... | .... | 1 | .... | 1 | 1 | 1 | 1 | .... |
| .... | 2 | 1 | .... | .... | .... | .... | 8 | 1 | 1 | 4 | .... | 4 | 3 | .... | 1 | 1 | 2 |
| .... | 1 | .... | .... | .... | .... | .... | .... | 4 | .... | .... | .... | .... | 1 | 1 | 2 | .... | .... |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | 1 | .... | 2 | 1 |
| .... | .... | .... | .... | .... | 2 | .... | 2 | 1 | .... | 1 | 1 | 1 | .... | .... | .... | 2 | 1 |
| .... | .... | .. | .... | .... | 1 | 2 | 16 | 7 | .... | 4 | 10 | 9 | 12 | 4 | 2 | 4 | 4 |
| .... | .... | .. | .... | .... | .... | .... | 2 | .... | .. | 3 | .... | .. | 1 | .... | .... | .... | .... |
| .... | .... | .. | .... | .... | .... | .... | 3 | 2 | .... | 1 | .... | .... | 1 | .... | .... | 2 | .... |
| .... | .... | .. | .... | .... | .... | .... | 2 | 2 | 1 | .... | .... | 1 | 2 | .... | .... | .... | .... |
| .... | 2 | .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | .... |
| .... | 1 | .... | . | .... | 1 | 1 | 2 | 2 | ... | .... | 1 | .... | .... | .... | .... | 3 | 2 |
| .... | .. | 1 | .. | .... | .... | .... | 1 | 1 | .... | 2 | .... | .... | 2 | .... | .... | .... | 1 |
| .... | .... | .... | 1 | 3 | 5 | .... | 35 | 15 | 2 | 13 | 12 | 23 | 27 | 4 | 10 | 25 | 9 |
| .... | 16 | 4 | 1 | ... | 15 | 3 | 57 | 37 | 6 | 28 | 19 | 29 | 47 | 10 | 15 | 45 | 27 |
| ... | .. | 4 | 1 | ... | 1 | .... | 13 | 8 | 1 | 1 | 1 | 1 | 9 | 1 | 2 | 3 | 5 |
| .... | .... | .... | .... | .... | . | .... | 2 | .... | .... | 2 | ... | 1 | 1 | 1 | 1 | 3 | 1 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 2 |
| .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | .... | .... | 1 | .... | 1 |
| .... | 3 | .... | .... | .... | 1 | .... | 9 | 1 | .. | 4 | 2 | 5 | 3 | .... | 1 | 4 | 6 |
| .... | .... | .... | .... | .... | .. | .. | .... | 1 | 1 | .... | 1 | .... | .... | .... | .... | 1 | .... |

FOR APRIL — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | .. | .... | .. | .... | .... | 7 | 3 | .. | 3 | 1 | 1 | 6 | .... | 1 | 2 | 2 |
| ... | .... | ... | ... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | ... |
| ... | ... | ... | .... | .. | .. | .... | .... | 2 | 3 | . | 2 | 1 | .... | .... | .... | .... | .... | .... |
| ... | . | ... | .... | .. | .. | .... | .... | 2 | 1 | ... | .. . | 1 | 1 | 1 | .... | 1 | 1 | .... |
| .. | ... | .. | .... | .... | ... | .... | .. . | 1 | .... | ... | .... | .... | 2 | 3 | .... | .... | 1 | .... |
| ... | ... | ... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| 4 | .. | 2 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | .... | .... | .... | 1 | 1 | 1 | .... | 2 | .... |
| 1 | ... | 4 | 1 | 1 | 6 | 15 | 3 | 83 | 62 | 7 | 33 | 16 | 43 | 53 | 21 | 11 | 58 | 54 |
| ... | .... | 1 | ... | .. | 2 | 1 | .... | 8 | 2 | ... | 2 | 1 | 4 | 4 | 1 | ... | 2 | 7 |
| ... | .... | ... | ... | .... | .. | .... | .... | 2 | 1 | .... | .... | .... | .. | 3 | .... | .... | .... | .... |
| ... | .... | ... | ... | .... | .. | .... | .... | 1 | 2 | .... | 1 | .... | .... | 1 | .... | .... | 1 | 1 |
| ... | .... | ... | 1 | .. | .... | .... | 1 | 1 | 3 | .... | .... | .... | .... | ... | .... | .... | 1 | .... |
| .. | .. | .... | .... | .... | .... | .... | .... | 2 | 2 | .... | .... | 1 | 2 | .... | 2 | .... | 1 | 5 |
| ... | .. | .... | .... | .... | .... | .... | .... | ... | 4 | .... | .... | .... | 1 | 1 | .... | .... | 4 | .... |
| ... | .... | 1 | .... | .... | 1 | .. | .... | 1 | 1 | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 |
| ... | .... | .... | .... | 1 | .... | .... | .... | 1 | 2 | .... | 1 | 1 | .... | .... | 2 | .... | .... | .... |
| ... | .... | .... | .... | .... | .. | 2 | .... | 1 | 1 | .... | 1 | .... | 1 | .... | .... | .... | 2 | 2 |
| .. | .... | .... | .... | .... | .... | 2 | .... | .... | 1 | 1 | ... | 1 | 2 | 2 | .... | .... | 1 | 2 |
| .. | .... | .... | .... | .... | .... | 1 | .. | 3 | 1 | .... | .... | 1 | 2 | 1 | .... | .... | 2 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 1 | .... | .. | .... | .... | .... | .... | .... | 4 | 1 | .. | .... | .. | .... | 1 | 1 | ... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 4 | 2 | .... | 1 | . . | 2 | 3 | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | . . |
| ... | ... | ... | .... | .... | .... | .... | .... | .... | 1 | ... | .... | .... | 2 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | 4 | .... | .... | 1 | .... | .... | 2 | 1 | .... | 1 | 1 |
| ... | .. | 2 | .... | .... | 3 | 8 | 1 | 50 | 37 | 6 | 26 | 11 | 27 | 33 | 14 | 10 | 42 | 31 |
| 1 | .. | 6 | 3 | 2 | 3 | 14 | 11 | 93 | 47 | 5 | 39 | 29 | 49 | 68 | 13 | 17 | 49 | 35 |
| ... | .... | .... | .... | 1 | .... | 3 | 8 | 10 | 7 | ... | 6 | 2 | 2 | 5 | 1 | .... | 2 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 2 | 1 | 5 | 6 | 1 | .... | 1 | ... |
| ... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... |
| ... | .... | .... | 1 | .... | .... | 1 | .... | 2 | 1 | .... | ... | 1 | .... | 1 | 1 | 1 | 1 | .... |
| ... | .... | 2 | 1 | .... | .... | .... | .... | 8 | 1 | 1 | 4 | .... | 4 | 3 | .... | 1 | 1 | 2 |
| ... | .... | 1 | .... | .... | .... | .... | .... | .. . | 4 | .... | .... | .... | .... | 1 | 1 | 2 | .... | .... |
| ... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | 1 | .... | 2 | 1 |
| ... | .... | .... | .... | .... | .... | 2 | .... | 2 | 1 | .... | 1 | 1 | 1 | .... | .... | .... | 2 | 1 |
| ... | .... | .... | .. | .... | .. | 1 | 2 | 16 | 7 | .... | 4 | 10 | 9 | 12 | 4 | 2 | 4 | 4 |
| ... | .... | .... | .. | .... | .... | .... | .... | 2 | .... | .. | 3 | .... | .. | 1 | .... | .... | .... | .... |
| ... | .... | .... | .. | .... | .... | .... | .... | 3 | 2 | .. | 1 | .... | .... | 1 | .... | .. | 2 | .... |
| ... | .... | .... | .. | .... | .... | .... | .... | 2 | 2 | 1 | .... | .... | 1 | 2 | .... | .... | .... | .... |
| ... | .... | 2 | .. | .... | .... | .... | .... | .... | .... | ... | 1 | .... | .... | .... | .... | .... | 1 | .... |
| ... | .... | 1 | . | .... | .... | 1 | 1 | 2 | 2 | ... | .... | 1 | .. . | .... | .... | .... | 3 | 2 |
| ... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | ... | 2 | .... | .... | 2 | .... | .... | .... | 1 |
| ... | .... | .. | .... | .... | .... | 1 | .... | 9 | 2 | ... | 1 | 1 | 2 | 5 | .... | 1 | 2 | 2 |
| 1 | ... | .... | .... | 1 | 3 | 5 | .... | 35 | 15 | 2 | 13 | 12 | 23 | 27 | 4 | 10 | 25 | 9 |
| ... | .... | 16 | 4 | 1 | ... | 15 | 3 | 57 | 37 | 6 | 28 | 19 | 29 | 47 | 10 | 15 | 45 | 27 |
| ... | ... | .. | 4 | 1 | ... | 1 | .... | 13 | 8 | 1 | 1 | 1 | 1 | 9 | 1 | 2 | 3 | 5 |
| .. | ... | ... | .... | .... | .... | . | .... | 2 | .... | .... | 2 | ... | 1 | 1 | 1 | 1 | 3 | 1 |
| .. | ... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... | 2 |
| .. | ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | ... | .... | 1 | ... | 1 |
| ... | .... | 3 | ... | .... | .... | 1 | .... | 9 | 1 | .... | 4 | 2 | 5 | 3 | .... | 1 | 4 | 6 |
| ... | .... | .... | .. | .... | .... | .. | .. | ... | 1 | 1 | .... | 1 | .... | .... | .... | .... | 1 | .... |

MONTHLY [illegible]

| | Population | Total number of deaths | Corresponding annual death rate per 1,000 | Deaths under five years | Percentage of deaths under five years to total deaths | Zymotic deaths per 1,000 deaths from all causes | [illegible] |
|---|---|---|---|---|---|---|---|
| [illegible] DISTRICT — | | | | | | | |
| [illegible] rows | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Rest of District | | [illegible] | | 24 | [illegible] | [illegible] | |
| EAST CENTRAL DISTRICT — Totals | | [illegible] | | [illegible] | [illegible] | [illegible] | |
| [illegible] rows | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Rest of District | | [illegible] | | [illegible] | [illegible] | [illegible] | |
| [illegible] DISTRICT — Totals | | [illegible] | | [illegible] | [illegible] | [illegible] | |
| [illegible] rows | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| *Geneva* | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| *Canandaigua* | [illegible] | [illegible] | [illegible] | 2 | [illegible] | [illegible] | |
| [illegible] | [illegible] | 4 | [illegible] | | | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | 2 | [illegible] | | |
| *Penn Yan* | [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | |
| *Batavia* | [illegible] | [illegible] | [illegible] | 2 | [illegible] | | |
| *Dansville* | [illegible] | [illegible] | 22 [illegible] | 1 | 14 [illegible] | | |
| *Le Roy* | [illegible] | [illegible] | [illegible] | 0 | | | |
| *Warsaw* | [illegible] | 4 | [illegible] | [illegible] | 25.0 | | |
| *Rest of District* | | [illegible] | | 32 | 15.2 | [illegible] | |
| LAKE ONTARIO & WEST. DIST.: Totals | | [illegible] | | 267 | 26.0 | [illegible] | |
| BUFFALO | 275,7[illegible] | [illegible] | 16.[illegible] | 141 | 34.8 | 110.0 | |
| TONAWANDA | 7,145 | 7 | 12.[illegible] | 2 | 28.5 | | |
| Amherst | 3,[illegible] | 6 | 1[illegible].01 | 1 | 16.7 | | |
| *North Tonawanda* | 4,[illegible] | 10 | 25.[illegible] | 4 | 40.0 | 200.0 | |
| LOCKPORT | 16,0[illegible]8 | 23 | 15.[illegible] | 6 | 30.0 | 100.0 | |
| NIAGARA FALLS | 5,[illegible] | 13 | 28.00 | 4 | 30.6 | | |
| *Medina* | 4,500 | 4 | 10.[illegible]2 | 0 | .... | | |
| *Albion* | 4,536 | 5 | 13.05 | 0 | .... | | |
| *Brockport* | 3,742 | 5 | 16.05 | 1 | 20.0 | 200.0 | |
| ROCHESTER | 144,834 | 249 | 20.62 | 58 | 25.3 | 148.5 | |
| *Palmyra* | 4,173 | 4 | 11.20 | 0 | .... | .. | |

FOR APRIL — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | 2 | ... | ... | ... | 1 | ... | 4 | 3 | 1 | 1 | .... | .... | .... | 1 | 1 | 2 | .... |
| ... | ... | ... | ... | ... | ... | ... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| ... | ... | 1 | .... | .... | .... | 1 | .... | 2 | .... | .... | 1 | .... | 2 | 1 | 1 | 1 | .... | 3 |
| ... | .... | 4 | .... | .... | .... | .... | 1 | 1 | 1 | .... | 1 | 2 | 1 | 2 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | 2 | 2 | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | 1 | .... | .... | 1 | .... | .... | .... | .... |
| ... | ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | 2 | .... |
| ... | ... | 6 | ... | 1 | ... | 11 | 2 | 23 | 19 | 3 | 16 | 12 | 14 | 30 | 4 | 6 | 28 | 9 |
| 2 | .... | 3 | 8 | 1 | 2 | 9 | 2 | 92 | 47 | 4 | 41 | 23 | 54 | 81 | 22 | 20 | 49 | 22 |
| 2 | .... | .... | .. | ... | 1 | 3 | .... | 31 | 19 | 1 | 12 | 9 | 11 | 24 | 3 | 7 | 11 | 5 |
| .. | .. | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | 3 | 1 | ... | 1 | ... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | .... | 1 | 2 | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | .... | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .. | . | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 3 | 1 | .... | 2 | .... | 1 | 1 | .... | .... | 3 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | 3 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .. | .... | .... | .... | .... | .... | 2 | . |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | 2 | 2 | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .. | .... | 1 | 3 | .... | .... | 1 | 1 |
| ... | .... | 1 | .... | .... | .... | 1 | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... |
| .. | .... | .. | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 1 | 1 | 1 | 1 | .. | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | 1 | .... | .... |
| .. | .... | 4 | 7 | 1 | 1 | 5 | 1 | 50 | 20 | 3 | 24 | 12 | 33 | 42 | 14 | 12 | 28 | 12 |
| ... | .... | 1 | 3 | 2 | 4 | 15 | 4 | 44 | 39 | 5 | 29 | 18 | 35 | 46 | 11 | 14 | 32 | 34 |
| ... | ... | 1 | ... | .... | ... | 3 | 1 | 3 | 7 | ... | 2 | 1 | 4 | 2 | ... | 4 | 2 | 6 |
| ... | .. | ... | .... | .... | .... | 1 | .... | 2 | 2 | ... | .... | .... | 2 | .... | .... | .. | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 3 | ... | .... | 1 | .... | .... | .... | 1 | .. | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .. | .... | 1 | .... | 1 | .... | .... | .. | 2 | .... |
| ... | .... | .... | 1 | .... | .... | 3 | .... | 1 | 2 | 1 | .... | .... | .. | .... | .... | 1 | .... | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | 1 | 2 | .... | .... | .... | 1 | .... | .... | 1 | 2 | .... |
| .. | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 3 | 2 | .... | 2 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | .. | .... | 1 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | 3 | 2 | .... | 2 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .... | 2 | .... | .... | 1 | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | .... | .... | .... | .... | 1 |
| .. | .... | .. | 2 | 2 | 4 | 5 | 3 | 27 | 20 | 3 | 19 | 13 | 23 | 33 | 7 | 7 | 19 | 21 |
| 2 | .... | 25 | 9 | 6 | 5 | 42 | 7 | 160 | 125 | 20 | 85 | 42 | 90 | 156 | 40 | 44 | 84 | 93 |
| ... | ... | 7 | 2 | 1 | 3 | 23 | 1 | 69 | 44 | 10 | 40 | 17 | 29 | 69 | 14 | 16 | 20 | 38 |
| ... | .... | .... | .... | .. | .. | 1 | .... | .... | 3 | .... | .... | .... | .... | 3 | .... | .... | .... | .... |
| ... | .... | .... | .... | .. | .. | .. | .. | 1 | 1 | .. | 1 | .. | 1 | .... | 1 | .... | 1 | .... |
| ... | .... | .. | .... | . | .... | 1 | . | 1 | 3 | ... | 2 | 1 | 1 | 1 | .... | .... | .... | 2 |
| ... | .. | .... | .... | 1 | .... | 1 | 1 | 4 | 2 | .... | .... | 1 | 1 | 1 | .... | 2 | 2 | 6 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | 2 | 1 | .... | 2 | 2 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | .... | .... | .... | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | 1 | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | .... | .... | .... | .... | 2 | .... | .... | .... |
| ... | .. | 12 | ... | 2 | 1 | 13 | 2 | 35 | 31 | 3 | 14 | 8 | 22 | 38 | 9 | 14 | 18 | 20 |
| 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | 1 | .... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONT. & WEST. DIST.—(*Cont'd*) | | | | | | | | |
| *Newark*.. | 3,000 | 3 | 12.00 | 0 | .... | ..... | .. | .... |
| Lyons... | 6,127 | 14 | 27.30 | 3 | 21.4 | 285.70 | 1 | .... |
| *Clyde*.. | 3,000 | 8 | 32.00 | 1 | 12.5 | 125.00 | .. | .. |
| OSWEGO. | 21,966 | 44 | 23.98 | 8 | 18.2 | 45.45 | ... | 1 |
| *Fulton*. | 4,214 | 6 | 17.10 | 2 | 33.3 | 166.67 | .... | .... |
| Richland | 3,637 | 6 | 19.10 | 0 | .... | 166.67 | ... | ... |
| Rest of District.. | ..... | 247 | ..... | 36 | 14.6 | 80.00 | 3 | 1 |
| Totals for the State | ..... | 11,865 | ..... | 3,339 | 28.1 | 111.16 | 104 | 111 |
| Av'ge for April for past 8 years... | ..... | 9,179 | ..... | 2,814 | 30.7 | 182.46 | 56 | 71 |
| Totals for March, 1893 . | ..... | 12,000 | ..... | 3,419 | 28.5 | 121.17 | 89 | 115 |

REMARKS. — The increase in the mortality, which began in March, and was then estimated at average daily mortality is 395, which is about 60 more than in January and February and 8 more diseases is unusually low; the deaths from other causes (local diseases), while corresponding very The increase of mortality for the month is not less than 2,000 above the normal and is to be traced less than this last month. The increased mortality has, as in March, been much the greatest in the system has been unusually large. Of ordinary zymotic diseases, all show an actual as well as rela chiefly in the Maritime District. Of the 23 deaths from small pox, 1 occurred in Callicoon, Sullivan town of Southold. Consumption participates in the larger mortality from all diseases of the respir villages and larger towns, the aggregate death rate of which was 24.86 per 1,000 population.

FOR APRIL — (*Concluded*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | 3 | ... | ... | ... | ... | 1 | 1 | ... | 2 | 1 | ..... | 1 | .... | 1 | 1 | 2 |
| ... | ... | ... | 1 | ... | ... | ... | ... | 2 | 2 | ... | 1 | ... | ..... | ..... | .... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 5 | 7 | ... | 3 | 1 | 4 | 6 | 2 | 3 | 5 | 6 |
| ... | ... | .. | 1 | ... | ... | ... | ..... | ... | 1 | .... | 1 | 1 | ..... | ..... | ... | ..... | 1 | 1 |
| ... | ... | ... | ... | 1 | ... | ... | ..... | 2 | ..... | ... | ..... | 1 | ..... | 1 | ... | ..... | 1 | ... |
| 1 | ... | 6 | 2 | 1 | 1 | 2 | 2 | 34 | 28 | 3 | 18 | 10 | 35 | 33 | 11 | 8 | 30 | 17 |
| 34 | 23 | 199 | 73 | 55 | 133 | 444 | 143 | 2,943 | 1,329 | 124 | 678 | 637 | 865 | 1,413 | 304 | 402 | 572 | 1279 |
| 68 | 10 | 199 | 139 | 46 | 80 | 439 | 112 | 1,908 | 1,163 | 99 | 480 | 462 | 623 | 1,009 | 200 | 312 | 632 | 1074 |
| 37 | 29 | 221 | 76 | 41 | 166 | 517 | 163 | 2,951 | 1,286 | 131 | 699 | 695 | 885 | 1,330 | 303 | 334 | 589 | 1344 |

2,000 above the normal for the month, has continued, with a slightly greater increase in April. The than in March: it is 42 more than in April, 1892. The relative proportion of deaths from zymotic closely with the mortality of March, being greatly in excess of that of the same period of last year, to a continuance of the epidemic of grippe, which was estimated to have caused a mortality slightly Maritime District, where the death rate from diseases of the respiratory organs and of the nervous tive decrease, except cerebro-spinal fever, the increased number of deaths from which occurred county; an outbreak is prevalent at College Point and cases have occurred at Jamaica and in the atory organs. Of the 11,865 deaths occurring during the month, 9,783 were reported from 149 cities,

MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths and causes in the following*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Roman

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | ..... | 6,519 | ... | 2,251 | 35.5 | 168.27 | 188 | 9 |
| NEW YORK CITY | 1,860,808 | 3,941 | 24.90 | 1,400 | 35 5 | 168 23 | 107 | 9 |
| BROOKLYN | 978,394 | 1,796 | 21.60 | 662 | 36.7 | 128.35 | 21 | 7 |
| Gravesend | 8,418 | 11 | 15 73 | 3 | 27.3 | 273.73 | .. | ... |
| New Utrecht | 9,129 | 23 | 31 90 | 8 | 36 4 | 227.27 | 2 | ... |
| LONG ISLAND CITY | 35,745 | 75 | 25.46 | 22 | 29 3 | 186.66 | ... | ... |
| Newtown | 19,776 | 34 | 18 82 | 13 | 42.6 | 258.00 | ... | .. |
| Oyster Bay | 14,887 | 2 | ..... | 0 | .... | ..... | ... | ... |
| Hempstead | 23,991 | 54 | 27.27 | 13 | 24.1 | 18.54 | ... | ... |
| North Hempstead | 8,726 | 13 | 18.00 | 3 | 23.0 | 77.00 | ... | |
| Jamaica | 17,654 | 37 | 25 16 | 11 | 29.0 | 108.10 | ..... | |
| Flushing | 20,816 | 32 | 18.46 | 7 | 21.9 | 93.78 | 1 | ... |
| Southold | 7,671 | 11 | 17.16 | 2 | 18.2 | ..... | ... | ... |
| *Sag Harbor* | 9,000 | 5 | 20.00 | 0 | .... | ..... | .. | .. |
| Huntington | 8,253 | 13 | 19.00 | 3 | 23.1 | ..... | .. | .. |
| Brookhaven | 13,193 | 1 | ..... | 0 | .... | ..... | ... | ... |
| *New Brighton* | 16,423 | 25 | 18.27 | 4 | 16.0 | 80.00 | 1 | 1 |
| *Edgewater* | 14,265 | 20 | 16 80 | 4 | 20.0 | 50 00 | .. | |
| *Port Richmond* | 6,390 | 6 | 12 00 | 2 | 33.3 | 333 33 | .. | 1 |
| Westfield | 8,648 | 12 | 16 68 | 5 | 41.7 | 416 66 | 1 | .. |
| YONKERS | 34,000 | 55 | 19.40 | 22 | 40 0 | 127.77 | 2 | ... |
| Westchester | 8,326 | 14 | 20.76 | 6 | 42.8 | 214 28 | .. | .. |
| Greenburgh | 11,630 | 13 | 14.00 | 2 | 15.4 | 77.00 | .... | |
| MOUNT VERNON | 10,830 | 25 | 27.50 | 4 | 16.0 | 160.00 | 2 | ... |
| *Port Chester* | 5,274 | 11 | 22 65 | 1 | 9.0 | 90.90 | .... | .... |
| *Sing Sing* | 9,352 | 12 | 15 40 | 2 | 16.7 | ..... | .. | .. |
| *New Rochelle* | 8,217 | 10 | 14 50 | 2 | 20.0 | 100.00 | .. | ... |
| *Peekskill* | 9,676 | 10 | 12.40 | 0 | .... | ..... | .... | .. |
| *White Plains* | 4,012 | 10 | 29.60 | 2 | 20 0 | 100 00 | ... | ... |
| Rest of District | ..... | 251 | ... | 48 | 19.2 | 108.00 | 1 | 1 |
| HUDSON VALLEY DISTRICT: Totals | ..... | 1,121 | ..... | 215 | 19.3 | 107.30 | 10 | 18 |
| ALBANY | 98,000 | 191 | 23.30 | 41 | 21.5 | 84 47 | 2 | 4 |
| COHOES | 23,234 | 55 | 28.10 | 15 | 27 3 | 250.00 | .... | 4 |
| TROY | 64,986 | 124 | 22.94 | 25 | 20.2 | 120.90 | 1 | 1 |
| *West Troy* | 12,967 | 25 | 22.75 | 3 | 12 0 | 80.00 | 1 | ... |
| *Green Island* | 4,463 | 10 | 26.90 | 2 | 20.0 | 100.00 | .... | 1 |
| *Lansingburgh* | 10,550 | 20 | 22.74 | 5 | 25.0 | 100 00 | .... | .... |
| *Hoosick Falls* | 7,014 | 13 | 22.23 | 3 | 23 0 | 307.70 | 1 | 2 |
| *Greenbush* | 7,462 | 13 | 21.37 | 4 | 30.7 | 77.00 | ... | .. |
| Coxsackie | 3,824 | 1 | ..... | 0 | .... | ..... | ... | .. |
| *Catskill* | 4,920 | 7 | 17.00 | 2 | 28.5 | 285.71 | .... | .... |
| HUDSON | 9,633 | 17 | 21.08 | 3 | 17.6 | 64.00 | .. | .. |
| KINGSTON | 21,500 | 37 | 20.72 | 17 | 45.8 | 162.20 | 2 | |
| *Ellenville* | 3,000 | 5 | 20.00 | 1 | 20.0 | 200 00 | ... | .... |
| Marbletown | 3,689 | 6 | 19.80 | 0 | .... | ..... | .. | .. |
| Rosendale | 6,125 | 10 | 19.60 | 5 | 50 0 | 300 00 | 1 | .... |
| Esopus | 5,035 | 6 | 14.40 | 1 | 16.7 | ..... | .... | .... |
| *Saugerties* | 4,237 | 7 | 19.81 | 2 | 28.5 | 285 70 | .... | 1 |
| POUGHKEEPSIE | 23,200 | 48 | 24.79 | 12 | 25.0 | 104.16 | .. | 2 |
| *Fishkill* | 3,617 | 6 | 19 90 | 1 | 16.7 | ..... | .... | .. |
| *Wappinger Falls* | 3,718 | 10 | 32.20 | 3 | 30.0 | 400 00 | ... | . |
| NEWBURGH | 24,536 | 42 | 20.58 | 6 | 14.3 | 47.62 | .... | ... |
| *Port Jervis* | 9,327 | 22 | 28.10 | 2 | 9.0 | ..... | ... | .... |

## YORK STATE BOARD OF HEALTH.

*districts, cities and towns, during May*, 1893.

type. For boundaries of *Sanitary Districts* see Annual Summary.]

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 21 | 131 | 56 | 30 | 101 | 296 | 120 | 1,331 | 771 | 53 | 371 | 431 | 421 | 715 | 137 | 325 | 135 | 870 |
| 8 | 9 | 85 | 31 | 19 | 55 | 206 | 84 | 787 | 474 | 35 | 209 | 264 | 241 | 348 | 86 | 212 | 48 | 604 |
| 14 | .... | 36 | 23 | 10 | 32 | 64 | 25 | 419 | 199 | 14 | 115 | 117 | 105 | 266 | 40 | 68 | 30 | 191 |
| ... | ... | 1 | ... | ... | .. | 2 | ... | ... | 2 | .. | 1 | ... | 2 | ... | .. | 2 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 3 | 2 | ... | ... | ... | 1 | 1 | 3 | . | 6 | 1 | 4 |
| .. | .... | 2 | 1 | .... | ... | 9 | 2 | 18 | 8 | .. | 4 | 3 | 5 | 9 | 1 | 5 | 2 | 6 |
| 1 | .... | ... | ... | .... | 3 | 3 | 1 | 2 | 3 | .... | 2 | ... | 2 | 3 | 1 | 4 | 2 | 4 |
| .. | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | 1 | ... | ... | . | ... | ..... | 13 | 4 | 1 | 3 | 5 | 6 | 7 | 2 | 3 | 6 | 3 |
| ... | .... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 3 | 1 | 4 | ... | ... | 1 | 1 | 1 |
| 1 | .... | ... | 1 | ... | 2 | .... | ... | 5 | 1 | 2 | 4 | 3 | 3 | 5 | 1 | 3 | 3 | 3 |
| ... | 1 | . | ... | ... | 1 | .. | ..... | 5 | 3 | .... | 3 | 1 | 5 | 5 | 1 | ... | 4 | 2 |
| .. | .... | ... | ... | ... | ... | ... | ... | 2 | 2 | .. | 1 | .... | 2 | ... | ... | ... | 2 | 2 |
| . | .... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ..... | ... | 1 | ... | ... | ... | 1 | 1 |
| . | .... | .. | ... | ... | ... | ... | ... | 3 | ..... | ... | 1 | 1 | 1 | 3 | 1 | ... | 2 | 1 |
| ... | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | ..... | ... | ... | ... | ... | ... | 1 | ... |
| ... | .... | .. | ... | ... | 1 | ... | ... | 4 | 6 | .... | 4 | 1 | 1 | 3 | ... | 3 | ... | 1 |
| ... | .... | .. | ... | ... | 1 | ... | ... | 4 | 3 | .... | 1 | 1 | 2 | 4 | 1 | . | 3 | ... |
| ... | .... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ..... | ... | 2 | ... | ... | ... | 1 | ... |
| .. | .... | 1 | ... | ... | ... | 3 | ... | 2 | 2 | ... | ..... | 1 | ... | ... | ... | 1 | ... | 1 |
| .. | .... | 1 | ... | ... | ... | 4 | ... | 9 | 7 | .... | 3 | 7 | 3 | 10 | 1 | 2 | ... | 6 |
| .. | .... | ... | ... | ... | 1 | 1 | 1 | 1 | 1 | .... | 1 | 1 | 1 | 2 | ... | ... | 2 | 2 |
| ... | .... | ... | ... | ... | ... | 1 | ... | 4 | 1 | .... | ..... | 1 | ... | 4 | ... | 1 | 1 | ... |
| ... | ... | 1 | ... | 1 | .. | ... | ... | 6 | 2 | ... | 2 | 2 | 4 | 1 | ... | ... | 2 | 2 |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 3 | .... | . | 1 | 1 | 3 | ... | ... | ... | 2 |
| 1 | .. | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 1 | 1 | 3 | ... | ... | 1 | 1 | 2 |
| ... | ... | ... | .. | ... | ... | 1 | ... | 3 | 1 | .. | ..... | ... | 1 | 1 | ... | 1 | 1 | 1 |
| ... | ... | ... | ... | ... | . | ... | ... | 2 | ... | ... | 2 | 1 | 1 | 4 | ... | ... | ... | ... |
| .. | .. | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | 1 | 1 | 1 | 1 | ... | 1 | 1 | 1 |
| 2 | 11 | 1 | ... | ... | 5 | 2 | 4 | 35 | 43 | 1 | 10 | 17 | 23 | 33 | 2 | 11 | 20 | 29 |
| 6 | .... | 24 | 7 | 2 | 4 | 30 | 18 | 183 | 131 | 5 | 72 | 70 | 109 | 141 | 33 | 55 | 81 | 122 |
| ... | ... | 2 | .. | 1 | 1 | 2 | 5 | 38 | 21 | .... | 18 | 9 | 18 | 28 | 4 | 11 | 6 | 26 |
| ... | ... | 9 | .. | ... | ... | 1 | 1 | 11 | 5 | .... | 1 | 1 | 2 | 6 | 1 | 5 | 2 | 7 |
| 1 | ... | 1 | ... | ... | ... | 9 | 2 | 28 | 12 | ... | 10 | 8 | 9 | 11 | 4 | 4 | 7 | 16 |
| .. | .. | . | ... | ... | ... | ... | 1 | 7 | 4 | .... | 1 | 2 | 3 | ... | 2 | 2 | 2 | ... |
| ... | .. | .. | ... | ... | ... | ... | ... | 1 | ... | .... | 3 | 1 | 2 | ... | ... | 1 | ... | 1 |
| ... | .. | ... | ... | ... | ... | 2 | ... | 4 | 3 | ... | 4 | 1 | 1 | 2 | 1 | .. | 1 | 1 |
| ... | .... | | ... | ... | ... | 1 | ... | ... | 5 | .... | 1 | .... | 1 | ... | ... | | 2 | ... |
| ... | .... | | ... | ... | ... | 1 | ... | 3 | 2 | ... | 1 | ... | 2 | ... | 1 | | ... | 3 |
| ... | .... | | ... | ... | 1 | 1 | ... | 1 | ... | .... | 1 | ... | 2 | ... | ... | | ... | 1 |
| ... | ... | | ... | ... | ... | ... | ... | 1 | 3 | ... | 2 | 1 | 5 | 2 | ... | | ... | 1 |
| ... | ... | 1 | .. | ... | 1 | 2 | ... | 10 | 1 | ... | 3 | 1 | 7 | 4 | 2 | | 1 | 1 |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | ... | ..... | ... | ... | ... | 1 | | ... | 1 |
| . | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | | 2 | 1 |
| ... | ... | 2 | ... | ... | ... | ... | ... | 3 | ... | ... | ..... | ... | ... | 1 | ... | | 2 | 1 |
| .. | .. | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | 1 | 2 | ... | | ... | ... |
| ... | .. | 1 | ... | ... | ... | ... | ... | 1 | 1 | .... | 1 | 1 | ... | 1 | ... | | ... | ... |
| 1 | .... | ... | ... | ... | 1 | ... | ... | 6 | 10 | .... | 3 | 1 | 4 | 6 | 1 | | 5 | 3 |
| .. | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | | ... | 3 |
| 1 | .... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | 1 | 1 | ... | 2 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | 1 | ... | ... | 8 | 7 | ... | 2 | 3 | 5 | 7 | 1 | 1 | 3 | 3 |
| ... | .. | ... | ... | ... | ... | ... | ... | 2 | 4 | ... | ..... | 1 | 3 | 2 | 2 | 2 | 2 | 4 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. |
|---|---|---|---|---|---|---|---|
| HUDSON VAL. DIST. — (*Cont'd*): | | | | | | | |
| MIDDLETOWN | 11,612 | 26 | 26.50 | 5 | 19 2 | 77.00 | |
| Warwick | 6,000 | 10 | 20.00 | 1 | 10 0 | 100.00 | |
| Goshen | 4,646 | 9 | 23.22 | 1 | 11.1 | | |
| Montgomery | 5,259 | 8 | 18.24 | 0 | | | |
| Haverstraw | 7,714 | 13 | 21.45 | 1 | 7.7 | 154.00 | |
| *Nyack* | 5,603 | 3 | | 0 | | | |
| Ramapo | 6,600 | 10 | 18.20 | 2 | 20.0 | | |
| Rest of District | | 367 | | 53 | 14.7 | 90.14 | 2 |
| ADIRONDACK & NORTH'N DIST.: | | | | | | | |
| Totals | | 434 | | 85 | 19.6 | 94.50 | |
| WATERTOWN | 16,982 | 37 | 25.90 | 13 | 35.1 | 135.13 | |
| Ellisburgh | 4,223 | 3 | 8 52 | 0 | | | |
| Cape Vincent | 3,000 | 3 | 12.00 | 1 | 33.3 | | |
| Clayton | 4,250 | 7 | 19.60 | 0 | | 271.43 | |
| OGDENSBURG | 11,959 | 22 | 22.10 | 8 | 36.3 | 136.36 | |
| Gouverneur | 5,921 | 12 | 24.60 | 2 | 16.7 | | |
| *Potsdam* | 4,000 | 8 | 24.00 | 4 | 50.0 | 125.00 | |
| Canton | 6,013 | 2 | | 0 | | | |
| *Malone* | 5,000 | 6 | 14.00 | 2 | 33 3 | 166.67 | |
| *Plattsburgh* | 7,010 | 12 | 20.50 | 5 | 41.8 | 250 00 | |
| *Glens Falls* | 9,509 | 15 | 18.90 | 4 | 26.8 | 66 66 | |
| *Whitehall* | 4,434 | 6 | 16.26 | 2 | 33 3 | 166.67 | |
| Fort Edward | 4,382 | 12 | 29.00 | 1 | 8 3 | 83.33 | |
| Kingsbury | 5,112 | 2 | | 0 | | | |
| Granville | 5,261 | 5 | 12.00 | 1 | 20 0 | | |
| Greenwich | 4,431 | 7 | 18.97 | 2 | 28.5 | | |
| Rest of District | | 275 | | 41 | 14.8 | 85.00 | |
| MOHAWK VALLEY DISTRICT. | | | | | | | |
| Totals | | 450 | | 78 | 17 3 | 93.33 | 3 |
| SCHENECTADY | 22,858 | 52 | 27 30 | 12 | 23 0 | 153.80 | 1 |
| Cobleskill | 3,436 | 1 | | 0 | | | |
| AMSTERDAM | 18,542 | 23 | 14 88 | 3 | 13.0 | 43 50 | |
| *Fort Plain* | 3,000 | 5 | 20.00 | 0 | | | |
| *Johnstown* | 7,768 | 11 | 16 94 | 1 | 9.1 | 90.91 | |
| GLOVERSVILLE | 14,694 | 15 | 12.25 | 5 | 33.3 | 66.66 | |
| *Little Falls* | 8,783 | 8 | 12.00 | 2 | 25.0 | 125.00 | |
| *Herkimer* | 3,000 | 6 | 12.00 | 0 | | 166.67 | 1 |
| *Ilion* | 4,057 | 6 | 18.00 | 1 | 16.7 | 166.67 | |
| UTICA | 46,608 | 76 | 19.60 | 16 | 21.0 | 65 80 | |
| Whitestown | 5,225 | 4 | | 0 | | | |
| ROME | 13,688 | 22 | 19.36 | 1 | 4.5 | 90.80 | |
| Boonville | 3,512 | 4 | 13.66 | 1 | 25.0 | | |
| Camden | 3,675 | 8 | 26.08 | 0 | | | |
| Waterford | 5,522 | 13 | 28.21 | 3 | 23.0 | 261.50 | |
| *Ballston Spa* | 3,527 | 2 | 7.50 | 0 | | | |
| *Saratoga Springs* | 12,000 | 24 | 24.00 | 10 | 41.5 | 208.33 | 1 |
| Rest of District | | 170 | | 23 | 13.5 | 58.20 | |
| SOUTHERN TIER DISTRICT: | | | | | | | |
| Totals | | 409 | | 75 | 18.3 | 175.00 | |
| BINGHAMTON | 34,514 | 64 | 22.24 | 17 | 26.6 | 212.50 | |
| *Owego* | 6,000 | 7 | 14.00 | 0 | | | |
| Candor | 3,525 | 1 | | 0 | | | |
| *Waverly* | 4,123 | 3 | 9.00 | 1 | 33 3 | | |
| ELMIRA | 30,000 | 54 | 21.60 | 14 | 25 9 | 222.22 | |
| Horseheads | 3,319 | | | 0 | | | |

MAY — (*Continued*).

| Small-pox. | Scarlet fever | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | ... | 1 | 1 | 11 | 1 | .. | 2 | 2 | 1 | 3 | 1 | .... | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ..... | ... | 1 | 1 | .... | ... | 2 | ... | ... | .... | 4 | 1 |
| ... | ... | ... | ... | ... | ... | ..... | 1 | 2 | .. | .... | 2 | 1 | 2 | .. | .... | ... | 1 |
| ... | ... | ... | ... | . | 2 | ..... | 1 | 2 | ... | 1 | 2 | 1 | 1 | .. | .... | 1 | 3 |
| .. | .. | ... | .. | ... | ... | ..... | ... | ... | ... | ... | ... | 1 | ... | 2 | .... | ... | ... |
| ... | 8 | 3 | 1 | 3 | 6 | 4 | 44 | 42 | 2 | 19 | 28 | 37 | 37 | 9 | 20 | 35 | 42 |
| ... | .... | 4 | .... | 4 | 23 | 6 | 70 | 43 | 6 | 37 | 16 | 40 | 54 | 17 | 17 | 53 | 40 |
| .. | .... | .... | ... | 1 | 1 | 1 | 7 | 5 | .. | 1 | 2 | 1 | 3 | 1 | 3 | 4 | 5 |
| ... | .... | .... | ... | ... | ... | ..... | 1 | .... | .... | ... | ... | ..... | 1 | .... | ... | 1 | ... |
| .... | .... | ... | ... | ... | ... | ..... | ..... | ... | ... | ... | .. | ... | 2 | .. | ... | 1 | ... |
| .... | .... | 2 | ... | ... | ... | ..... | ... | 1 | ... | 1 | ... | ... | 2 | .. | 1 | ... | ... |
| .. | .... | ... | ... | 1 | .... | 2 | 4 | 1 | 1 | 2 | 1 | 2 | 3 | ... | ... | 2 | 3 |
| ... | .... | .... | ... | ... | ... | ..... | 3 | 2 | .... | 1 | .... | 2 | 1 | 1 | ... | 2 | .. |
| ... | .... | ... | ... | 1 | .... | ..... | ... | ... | ... | ... | .... | .. | 1 | 1 | 1 | 1 | 3 |
| ... | .... | ... | ... | ... | 1 | ..... | 1 | ... | ... | ..... | .... | ... | ... | .... | . | ... | 1 |
| .. | .... | ... | ... | ... | 3 | ..... | 2 | 1 | 1 | ... | .... | 1 | 3 | 1 | ... | 1 | 2 |
| .... | .... | ... | ... | ... | 1 | ..... | 5 | 1 | .... | 1 | ... | 1 | 1 | .. | 1 | 1 | 3 |
| .... | .... | ... | ... | ... | 1 | ..... | 1 | .... | .... | ... | 1 | 1 | ... | ... | ... | 1 | 1 |
| .... | .... | ... | ... | ... | 1 | ..... | 1 | 2 | .... | 3 | .... | ... | ... | ... | 2 | 1 | 2 |
| .... | .... | ... | ... | ... | ... | ..... | 1 | ... | .... | 1 | .... | ... | ... | ... | ... | ... | ... |
| .... | .... | ... | ... | ... | ... | ..... | 2 | 1 | .... | ..... | ... | ..... | ... | 1 | 1 | ... | ... |
| .... | .... | ... | ... | ... | ... | ..... | ... | ... | ... | ... | 1 | ... | 4 | ... | ... | ... | 2 |
| .... | .... | 2 | .. | 1 | 15 | 3 | 42 | 29 | 4 | 27 | 11 | 32 | 32 | 12 | 8 | 37 | 18 |
| .. | 12 | 3 | 1 | 4 | 11 | 3 | 64 | 51 | 1 | 27 | 31 | 44 | 68 | 20 | 17 | 43 | 42 |
| ... | ... | .... | .... | 1 | 4 | 1 | 10 | 6 | 1 | 2 | 4 | 8 | 5 | 2 | 1 | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ..... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ..... | 5 | 3 | ... | 3 | 1 | 1 | 3 | .. | 3 | 1 | 2 |
| . | ... | ... | ... | ... | ... | ..... | ... | ... | .... | 1 | ... | ... | 2 | ... | ... | 2 | ... |
| .... | 1 | ... | ... | ... | ... | ..... | 1 | 1 | .. | 1 | 2 | 1 | 1 | 2 | .. | ... | 1 |
| .... | ... | 1 | ... | ... | ... | ..... | 6 | 1 | ... | 1 | ... | 2 | 1 | 1 | .... | 1 | 1 |
| ... | ... | ... | ... | . | 1 | ..... | 1 | 2 | .... | ... | 1 | 1 | 2 | ... | ... | ... | ... |
| .. | ... | .. | .. | .. | .. | ..... | ... | ... | ... | 2 | .. | .. | 1 | ... | 1 | 1 | ... |
| ... | 1 | ... | ... | ... | ... | ..... | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | 1 |
| . | 2 | 2 | ... | .... | 1 | ..... | 14 | 6 | ... | 6 | 7 | 4 | 18 | 5 | 3 | 3 | 5 |
| . | . | .... | 1 | ... | 1 | ..... | 4 | 3 | ... | 2 | 1 | 2 | 3 | 1 | .. | 4 | ... |
| . | .. | ... | ... | ... | ... | ..... | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... |
| .. | 5 | .... | ... | .. | 1 | ..... | 1 | 2 | .. | ..... | 1 | ... | ... | 1 | ... | 2 | 2 |
| ... | ... | ... | ... | ... | ... | ..... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | 2 |
| ... | 1 | ... | .. | 2 | 1 | ..... | 5 | 3 | .... | 1 | .... | 2 | 2 | ... | 1 | 2 | 3 |
| ... | 2 | .... | .. | 1 | 2 | 2 | 14 | 23 | .... | 8 | 11 | 20 | 26 | 8 | 8 | 23 | 19 |
| ... | 7 | 15 | 2 | 3 | 23 | 9 | 42 | 41 | 4 | 27 | 24 | 44 | 50 | 14 | 24 | 34 | 34 |
| ... | .... | 11 | .... | .... | .... | 4 | 4 | 11 | 1 | 3 | 3 | 5 | 11 | ... | 3 | ... | 3 |
| ... | ... | ... | ... | ... | ... | ..... | ..... | 1 | .... | ..... | .... | 3 | ..... | 1 | 1 | 1 | ... |
| .... | ... | ... | ... | ... | ... | ..... | ... | ... | ... | ..... | .... | ... | ..... | ... | ... | 1 | ... |
| .... | ... | ... | ... | ... | ... | ..... | 1 | ... | ... | ..... | ... | ... | 1 | 1 | ... | ... | ... |
| .... | 3 | 1 | ... | . | 3 | 2 | 5 | 6 | 1 | 2 | 1 | 6 | 5 | 2 | .. | 5 | 9 |
| .... | .... | ... | ... | ... | ... | ..... | ... | ... | ... | ..... | ... | ... | ..... | ... | . | 1 | ... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| SOUTHERN TIER DIST.—(*Cont'd*): | | | | | | | | |
| HORNELLSVILLE | 11,898 | 14 | 14.50 | 1 | 7.1 | 128.70 | ... | .. |
| *Bath* | 3,261 | 8 | 29.44 | 0 | ..... | ..... | .. | 1 |
| CORNING | 10,025 | 21 | 25.20 | 4 | 19 0 | 428.71 | .. | .. |
| Wellsville | 5,033 | 4 | 9.52 | 1 | 25.0 | ..... | .. | .. |
| *Olean* | 7,358 | 12 | 19.56 | 3 | 25.0 | 83.33 | .. | .. |
| *Salamanca* | 3,700 | 7 | 22.68 | 4 | 57 1 | 428.71 | .... | .... |
| JAMESTOWN | 18,627 | 30 | 20.00 | 10 | 33.0 | 300.00 | ... | ... |
| *Westfield* | 3,000 | 2 | 8.00 | 0 | ..... | ..... | .. | .... |
| *Fredonia* | 3,400 | 4 | 14.12 | 1 | 25 0 | ..... | .. | .... |
| Rest of District | ..... | 177 | .... | 19 | 10 7 | 84 80 | ... | 1 |
| EAST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ..... | 446 | ..... | 68 | 15.2 | 75 80 | 1 | 4 |
| SYRACUSE | 91,944 | 132 | 17.23 | 29 | 22.0 | 136.36 | 1 | 2 |
| *Baldwinsville* | 3,040 | 2 | 8 00 | 0 | ..... | ..... | .. | .... |
| De Witt | 5,182 | 3 | ..... | 1 | 33 3 | ..... | .. | ... |
| *Cortland* | 8,590 | 9 | 12.60 | 3 | 33.3 | 222.22 | .. | .... |
| *Homer* | 3,000 | 1 | 4.00 | 0 | ..... | ..... | ... | ... |
| *Oneida* | 6,083 | 5 | 10 00 | 0 | ..... | ..... | .. | ... |
| Hamilton | 4,110 | 6 | 17 67 | 0 | ..... | ..... | .. | ... |
| Cazenovia | 3,803 | 3 | 10.00 | 1 | 33.3 | ..... | ... | .. |
| Brookfield | 3,235 | 1 | ..... | 0 | ..... | ..... | ... | ... |
| *Norwich* | 5,212 | 7 | 16.17 | 1 | 14 2 | 142.85 | .. | .. |
| *Oneonta* | 6,776 | 7 | 13.40 | 2 | 28.5 | ..... | ... | ... |
| Worcester | 2,670 | 3 | 18.00 | 1 | 33 3 | ..... | ... | ... |
| *Cooperstown* | 3,000 | 5 | 20.00 | 2 | 40.0 | ..... | ... | ..... |
| Walton | 4,811 | 7 | 17.50 | 0 | ..... | ..... | .. | ... |
| Delhi | 3,000 | 3 | 12 00 | 0 | ..... | ..... | .. | .. |
| Liberty | 3,471 | 7 | 24.15 | 1 | 14 2 | ..... | ... | .... |
| Rest of District | ..... | 245 | ..... | 27 | 11.0 | 57.14 | ... | 2 |
| WEST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ..... | 805 | ..... | 33 | 11.0 | 53.34 | 2 | 1 |
| AUBURN | 24,737 | 40 | 19.40 | 9 | 22.5 | 100 00 | .. | .. |
| ITHACA | 13,460 | 13 | 12.00 | 1 | 7.1 | ..... | .. | .. |
| Hector | 4,832 | 5 | 13 00 | 1 | 20.0 | ..... | .. | .... |
| *Waterloo* | 4,350 | 7 | 19.32 | 0 | ..... | ..... | .. | ... |
| *Seneca Falls* | 6,116 | 10 | 19.60 | 1 | 10.0 | ..... | .. | .. |
| *Geneva* | 7,557 | 5 | 10.00 | 0 | ..... | ..... | .. | .. |
| *Canandaigua* | 5,868 | 7 | 14 10 | 0 | ..... | ..... | .. | .. |
| Manchester | 4,181 | 5 | 14.25 | 0 | ..... | ..... | .. | .. |
| Phelps | 5,150 | 3 | 7.00 | 0 | ..... | ..... | .. | .. |
| *Penn Yan* | 4,254 | 4 | 11.06 | 0 | ..... | 500 00 | .. | .. |
| Batavia | 7,221 | 7 | 12.00 | 1 | 14 2 | ..... | .. | .. |
| *Dansville* | 3,758 | 8 | 25.52 | 0 | ..... | ..... | .. | .. |
| *Le Roy* | 3,000 | 1 | ..... | 0 | ..... | ..... | .. | ... |
| Warsaw | 4,700 | 6 | 15.30 | 1 | 16 7 | 166 67 | 1 | .. |
| Rest of District | ..... | 184 | ..... | 20 | 11.0 | 43.00 | 1 | 1 |
| LAKE ONTARIO & WEST. DIST.: | | | | | | | | |
| Totals | ..... | 1,034 | ..... | 275 | 26.5 | 95 72 | 5 | 13 |
| BUFFALO | 278,796 | 419 | 17.35 | 146 | 34 8 | 119.05 | 4 | 5 |
| TONAWANDA | 7,145 | 9 | 15.12 | 3 | 33 3 | ..... | .. | .. |
| Amherst | 3,960 | 4 | 13.00 | 2 | 50 0 | 250 00 | .. | .. |
| *North Tonawanda* | 4,800 | 14 | 33 10 | 5 | 35 7 | 70 43 | ... | 1 |
| LOCKPORT | 16,088 | 21 | 15.75 | 4 | 20.0 | 47 60 | ... | .. |
| NIAGARA FALLS | 5,502 | 12 | 24.01 | 3 | 27.3 | 90 90 | ... | 1 |
| *Medina* | 4,500 | 9 | 24.00 | 2 | 22.2 | 111.11 | ... | .... |

FOR MAY — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | 2 | 2 | ... | 1 | ... | 1 | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | 2 | 1 | ... | ... | 1 | 1 |
| 1 | ... | ... | 3 | ... | ... | 5 | ... | ... | 4 | ... | 1 | 1 | 2 | 2 | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 1 | 3 | 2 | ... | 2 | ... | ... |
| ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 2 |
| ... | ... | ... | ... | ... | ... | 9 | ... | 4 | 5 | ... | 2 | 3 | 2 | 4 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 2 | 1 |
| 1 | ... | 3 | ... | 2 | ... | 5 | 3 | 22 | 10 | 2 | 15 | 11 | 20 | 22 | 10 | 15 | 20 | 15 |
| 1 | ... | ... | 1 | 2 | 4 | 20 | 2 | 67 | 47 | 3 | 32 | 26 | 50 | 63 | 18 | 16 | 47 | 42 |
| 1 | ... | ... | ... | 1 | 2 | 11 | ... | 17 | 19 | ... | 8 | 7 | 14 | 16 | 5 | 2 | 9 | 17 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 3 | 3 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | 1 | 1 | 1 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | 1 | 1 | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | 2 | 2 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | 2 | 2 | ... | ... | ... | ... |
| ... | ... | 2 | 2 | ... | ... | 9 | ... | 28 | 47 | 3 | 24 | 18 | 28 | 49 | 8 | 19 | 44 | 21 |
| ... | ... | ... | ... | ... | ... | 4 | ... | 5 | 7 | ... | 3 | 2 | 7 | 6 | ... | 1 | 3 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | 4 | ... | 1 | ... | 1 | 1 | 2 | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | 1 | ... | 1 | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 3 | 2 | 1 | ... | 2 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 23 | 1 | 2 | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | 3 | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | 1 | 1 | ... | 1 | 1 | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | 1 |
| ... | ... | 2 | 2 | ... | ... | 2 | ... | 17 | 28 | 2 | 12 | 9 | 13 | 35 | 4 | 11 | 30 | 15 |
| 6 | ... | 17 | 4 | 6 | 7 | 27 | 17 | 159 | 108 | 11 | 70 | 48 | 98 | 147 | 39 | 71 | 71 | 113 |
| 1 | ... | 8 | ... | 3 | 1 | 18 | 15 | 75 | 46 | 6 | 29 | 13 | 27 | 67 | 13 | 31 | 17 | 45 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 1 | ... | 2 | ... | 3 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | 2 | 1 | ... | ... | 1 | 2 | ... | 4 |
| ... | ... | 1 | ... | ... | ... | ... | ... | 4 | 1 | ... | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 5 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | 3 | 1 | ... | 2 | 1 | 1 |
| ... | ... | 1 | ... | ... | ... | ... | ... | 2 | 1 | ... | 1 | ... | ... | 1 | ... | 3 | ... | ... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under 5 years. | Percentage of deaths under 5 years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONTARIO AND WESTERN DISTRICT — (*Concluded*): | | | | | | | | |
| *Albion* | 4,536 | 7 | 18.27 | 2 | 33.3 | 166.67 | .... | .. |
| *Brockport* | 3,742 | 7 | 22.40 | 1 | 14.2 | .. | .... | .. |
| ROCHESTER | 144,834 | 205 | 17.00 | 54 | 26 8 | 65.00 | .... | 2 |
| Palmyra | 4,173 | 5 | 14.35 | 0 | .... | ..... | .... | .... |
| *Newark* | 3,000 | 5 | 20.00 | 0 | .... | .... .. | .... | .... |
| Lyons | 6,127 | 4 | 8.00 | 1 | 25.0 | .... | .... | .... |
| *Clyde* | 3,000 | 6 | 24.00 | 2 | 33.3 | 166.67 | .... | .. |
| OSWEGO | 21,966 | 33 | 18.00 | 12 | 36.4 | 30 30 | .. | 1 |
| *Fulton* | 4,214 | 8 | 22 80 | 2 | 25.0 | .... | ..... | ..... |
| Richland | 3,637 | 5 | 15.92 | 1 | 20.0 | 200 00 | 1 | .... |
| Rest of District | ..... | 261 | .... .. | 35 | 13.5 | 103 80 | .. | 3 |
| Totals for the State | .... ... | 10,718 | .... | 3,080 | 28.7 | 128.94 | 159 | 98 |
| Average for May for past 8 years. | ... .. . | 8,469 | ..... | 2,651 | 31.3 | 147.46 | 57 | 61 |
| Totals for April, 1893 | ..... | 11,685 | . ... | 3,339 | 28.1 | 111.16 | 104 | 111 |

REMARKS.— There was an average daily mortality during May of 346; that of April having been began in March, due to epidemic influenza, is yielding, but the number of deaths is higher than to a continuance of the epidemic of influenza, which, during the three months, appears to have and least in the southern tier district, where it appears to have been but little disturbed by the districts. The usual spring increase in cerebro-spinal fever has been greater than usual, and is true of whooping cough, which is causing three times as many deaths as a year ago in that district uniformly throughout the State, deaths being reported from a considerable number of rural towns. ished. There were 544 deaths from accidents and violence, which is an unusually large number. of 2.02 inches of precipitation above the average, rain falling on fifteen days. The average

FOR MAY—(*Concluded*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | .... | .... | 1 | | .... | ..... | .. | .. | | 1 | ... | .. | 1 | .. | | 2 | 2 |
| ... | ... | ... | ... | ... | | ... | ... | ... | ... | | 1 | ... | ... | 1 | 1 | 1 | ... | 1 |
| ... | ... | 1 | 2 | 1 | | 6 | .. | 36 | 21 | 1 | 10 | 15 | 26 | 27 | 7 | 5 | 13 | 31 |
| ... | ..... | ... | .. | ... | | | .. | 1 | .. | .. | 1 | ... | ... | 1 | | 1 | 1 | .. |
| .. | ..... | .... | .... | ... | | . | .. | 1 | .. | .. | 1 | 1 | 1 | 1 | | | .. | .... |
| .. | ... | .. | ... | ... | | ... | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | 1 | 1 |
| ... | ... | .... | 1 | ... | | ... | .. | .. | 1 | ... | 1 | .. | 1 | 1 | .. | .. | 1 | .. |
| ... | ..... | .. | .... | ... | | . | ... | 3 | 5 | 1 | 5 | .. | 2 | 4 | 1 | 2 | 4 | 5 |
| .. | ..... | .. | .... | ... | | . | .. | 1 | .... | .. | 1 | 1 | 2 | 1 | | | 2 | ... |
| .. | ... | ... | .... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | .. |
| 2 | .... | 6 | 1 | 1 | 5 | 8 | 1 | 30 | 30 | 2 | 12 | 14 | 31 | 37 | 14 | 18 | 28 | 18 |
| 40 | 21 | 193 | 92 | 43 | 127 | 439 | 175 | 1,944 | 1233 | 86 | 660 | 664 | 834 | 1,287 | 286 | 544 | 503 | 1284 |
| 57 | 13 | 163 | 144 | 44 | 69 | 451 | 150 | 1,400 | 1123 | 93 | 469 | 457 | 584 | 928 | 221 | 377 | 542 | 1064 |
| 34 | 23 | 199 | 73 | 55 | 133 | 444 | 143 | 2,943 | 1329 | 124 | 678 | 637 | 865 | 1,413 | 304 | 402 | 572 | 1279 |

395, and of March 387, and of the four preceding months 364. The increase in mortality, which it was a year ago, and is apparently about 500 above the normal for the month, and may be attributed caused about 4,300 deaths. The falling off in the death rate is most marked in the maritime district epidemic. The variations have been about equal, proportionately in the cities and in the rural limited almost entirely to the maritime district, where 138 of the 159 deaths occurred. The same is Scarlet fever, diphtheria and measles are less prevalent than usual and are distributed more Consumption caused 100 fewer deaths than in April, and deaths from local diseases are all dimin- The death rate of 150 cities and large towns was 21.90 The month was rainy, there being an excess temperature was a little below the normal.

## MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths and causes in the following*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Roman

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | ..... | 5,551 | ..... | 2,228 | 40.5 | 193.00 | 74 | 36 |
| NEW YORK CITY | 1,860,803 | 8,348 | 21.87 | 1,410 | 42.1 | 205 78 | 58 | 21 |
| BROOKLYN | 978,394 | 1,476 | 18.35 | 595 | 40.3 | 162.00 | 8 | 7 |
| Gravesend | 8,418 | 13 | 18.55 | 0 | | 77 00 | ..... | |
| New Utrecht | 9,129 | 13 | 17.05 | 6 | 46.1 | 384.60 | ..... | |
| LONG ISLAND CITY | 35,745 | 81 | 27.19 | 40 | 49.4 | 345 56 | 3 | |
| Newtown | 19,776 | 37 | 22.45 | 13 | 35.1 | 351.00 | .. | 1 |
| Oyster Bay | 14,887 | 51 | ..... | 8 | ..... | ..... | ..... | |
| Hempstead | 23,991 | 39 | 13 63 | 10 | 37.0 | 222.22 | 1 | |
| North Hempstead | 8,726 | 13 | 17.44 | 3 | 24.0 | ..... | ..... | |
| Jamaica | 17,654 | 23 | 15 64 | 9 | 39.1 | 87.00 | ..... | |
| Flushing | 20,816 | 32 | 18.46 | 7 | 21.9 | 93.72 | ..... | |
| Southold | 7,671 | 10 | 15.60 | 1 | 10.0 | 100,20 | ... | |
| *Sag Harbor* | 3,000 | 6 | 24 00 | 1 | 16.7 | ..... | ..... | |
| Huntington | 8,253 | 5 | 7.30 | 3 | 60.0 | ..... | ..... | |
| Brookhaven | 13,493 | 11 | 10.00 | 3 | 28.3 | 90.90 | ..... | |
| *New Brighton* | 16,423 | 26 | 19.00 | 8 | 30.8 | 192.30 | .. | |
| *Edgewater* | 14,265 | 24 | 20.00 | 10 | 41.7 | 166 67 | ... | 1 |
| *Port Richmond* | 6,390 | 7 | 13.45 | 2 | 28.5 | ..... | ..... | |
| Westfield | 8,648 | 11 | 15.30 | 2 | 18.2 | 181.82 | ..... | |
| YONKERS | 34,000 | 46 | 16 23 | 23 | 50 0 | 282 50 | 2 | 1 |
| Westchester | 8,326 | 12 | 17.28 | 5 | 41.6 | 250.00 | ... | |
| Greenburgh | 11,630 | 7 | 8 50 | 0 | ..... | ..... | ..... | |
| MOUNT VERNON | 10,830 | 15 | 16.62 | 7 | 48 2 | 266.67 | ... | |
| *Port Chester* | 5,274 | 9 | 19.35 | 4 | 44.4 | 222.22 | 1 | |
| *Sing Sing* | 9,352 | 14 | 17.96 | 4 | 28 5 | 214.28 | 1 | |
| *New Rochelle* | 8,217 | 11 | 15.95 | 4 | 37.4 | 191.90 | .. | |
| *Peekskill* | 9,676 | 9 | 13.64 | 1 | 22 2 | 111.11 | ... | 1 |
| *White Plains* | 4,042 | 7 | 20.88 | 2 | 28.5 | 142.85 | ..... | |
| Rest of District | ..... | 195 | ..... | 46 | 23 4 | 170.00 | ... | 2 |
| HUDSON VALLEY DISTRICT: Totals | ..... | 817 | ..... | 173 | 21.2 | 124 84 | 3 | 5 |
| ALBANY | 98,000 | 149 | 18 18 | 37 | 24.8 | 120 80 | ... | 3 |
| COHOES | 23,234 | 42 | 21.70 | 14 | 28 5 | 309.50 | ... | 1 |
| TROY | 64,986 | 91 | 16.84 | 23 | 25.2 | 110.00 | .. | 2 |
| *West Troy* | 12,967 | 22 | 20.30 | 7 | 31.8 | 272.72 | ... | |
| *Green Island* | 4,463 | 8 | 22.55 | 1 | 12.5 | 125.00 | ..... | |
| *Lansingburgh* | 10,550 | 18 | 20.46 | 4 | 22.2 | 111 11 | ..... | 1 |
| *Hoosick Falls* | 7,014 | 15 | 25.45 | 1 | 6.6 | ..... | ..... | |
| *Greenbush* | 7,462 | 15 | 24.66 | 5 | 33 3 | 133.33 | ..... | |
| Coxsackie | 3,824 | 4 | 12.72 | 1 | 25.0 | ..... | ..... | |
| *Catskill* | 4,920 | 3 | ..... | 1 | 33.3 | 333.33 | ..... | 1 |
| HUDSON | 9,683 | 9 | 11.50 | 1 | 11.1 | ..... | ..... | |
| KINGSTON | 21,500 | 33 | 18.50 | 7 | 21.2 | 181.80 | 1 | |
| *Edenville* | 3,000 | 1 | 4.00 | 0 | ..... | ..... | ..... | |
| Marbletown | 3,689 | 2 | 6.60 | 0 | ..... | ..... | ..... | |
| Rosendale | 6,125 | 14 | 27.44 | 3 | 21.4 | ..... | ..... | |
| *Saugerties* | 4,237 | 6 | 16.98 | 2 | 33.3 | ..... | ..... | |
| POUGHKEEPSIE | 23,200 | 32 | 16.54 | 11 | 34.4 | 125.00 | ..... | |
| *Fishkill* | 3,617 | 1 | ..... | 0 | ..... | ..... | ..... | |
| *Wappinger Falls* | 3,718 | 5 | 16.10 | 1 | 20.0 | 400.00 | ..... | |
| NEWBURGH | 24,536 | 38 | 14.00 | 7 | 25.0 | 250 00 | 1 | 1 |
| *Port Jervis* | 9,327 | 12 | 15.36 | 2 | 16.6 | 166.67 | ..... | |
| MIDDLETOWN | 11,612 | 19 | 19.20 | 5 | 26.3 | 157.89 | ... | 1 |

## YORK STATE BOARD OF HEALTH.

### *districts, cities and towns during June*, 1893.

type. For boundaries of *Sanitary Districts* see Annual Summary]

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 10 | 97 | 68 | 19 | 61 | 278 | 397 | 717 | 666 | 39 | 378 | 340 | 362 | 644 | 112 | 335 | 101 | 775 |
| 13 | 7 | 53 | 49 | 15 | 35 | 204 | 232 | 439 | 394 | 28 | 231 | 206 | 202 | 306 | 66 | 216 | 30 | 541 |
| 12 | .. | 32 | 14 | 4 | 12 | 43 | 108 | 205 | 176 | 8 | 106 | 100 | 102 | 261 | 32 | 67 | 16 | 163 |
| ... | .. | .... | .... | .. | .. | 1 | .... | .... | 2 | .. | .... | 2 | 1 | .... | ... | 6 | ... | 1 |
| ... | .. | .... | .... | .. | 2 | .. | 3 | .... | 3 | .. | .... | .... | .... | 2 | .... | 2 | 1 | .... |
| .. | .... | .... | 2 | ... | .. | 10 | 13 | 7 | 5 | 1 | 3 | 4 | 5 | 10 | 1 | 5 | 1 | 11 |
| 1 | ... | 4 | .... | .. | 3 | .. | 4 | 2 | 3 | .. | 1 | 1 | 1 | 9 | .. | 1 | 3 | 3 |
| .. | .... | 1 | .... | .. | .. | 3 | .... | 8 | 6 | .. | 7 | 1 | 7 | 6 | 3 | 1 | 5 | 3 |
| ... | .. | ... | .... | ... | 3 | 5 | .... | 1 | 2 | ... | 4 | .. | 2 | 3 | 1 | 3 | 3 | 3 |
| .. | .... | .... | .... | .... | .. | .. | .... | 1 | 1 | .... | .... | 1 | 5 | 2 | 1 | 1 | .. | 1 |
| 1 | .... | ... | 1 | .... | .... | .. | .... | 1 | 4 | .... | 1 | 1 | .. | 1 | 1 | 2 | 2 | 5 |
| 1 | .... | .... | .... | .... | .... | .. | 2 | 5 | 3 | .... | 1 | 3 | 3 | 5 | 1 | 2 | 3 | 3 |
| 1 | .. | .... | .... | .... | .. | .. | .... | 1 | 2 | .... | .. | .... | 2 | .... | .... | 1 | 2 | 1 |
| ... | .. | .... | .... | .... | .. | .. | .... | 1 | 1 | .... | .. | .... | 2 | .... | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .. | .. | .... | 2 | .. | .... | .... | .... | .... | 2 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | 1 | 1 | 3 | 2 | 4 | .... | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 |
| ... | .... | 1 | 1 | .... | .. | .. | 1 | 5 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 2 | 2 |
| ... | .... | .... | .... | .... | .. | .. | .... | .... | .. | .... | 1 | 1 | 2 | .... | 1 | .. | .. | 2 |
| ... | .... | 1 | .... | .... | .. | .. | 1 | 1 | 2 | .... | 1 | .... | 1 | 1 | .. | 1 | .. | 2 |
| ... | 1 | .... | .... | .... | .. | 1 | 8 | 5 | 5 | .... | 2 | 2 | 6 | 3 | .... | 3 | 1 | 6 |
| ... | 1 | .... | .... | .... | .. | .. | 3 | 1 | 1 | .... | .... | .... | .... | 1 | .... | 4 | 1 | .. |
| ... | .... | .... | .... | .... | .. | .. | .... | .... | 1 | .... | 1 | .... | 1 | 1 | .... | 1 | 1 | 1 |
| ... | .... | 1 | 1 | .... | .. | 1 | 1 | 2 | .... | .... | .... | .... | 1 | 1 | 1 | 2 | .... | 4 |
| ... | .. | .... | .... | .... | .. | .. | 1 | 1 | .... | .... | .... | 2 | 1 | 1 | .... | .... | .... | 2 |
| . | .... | .... | .... | .... | .. | .. | 2 | .... | 3 | .... | .... | 1 | .... | 2 | 1 | 2 | 2 | .... |
| .. | .... | .... | .... | .... | .. | 2 | .... | .... | 2 | .... | .... | .... | 1 | 2 | .. | 2 | 1 | 1 |
| .. | .... | .... | .... | .... | .. | .. | .... | 1 | 3 | .... | .... | .... | .... | 1 | .... | 2 | 1 | .... |
| 1 | 1 | 3 | ... | . | 5 | 6 | 15 | 24 | 40 | 1 | 13 | 13 | 11 | 24 | 4 | 7 | 10 | 15 |
| 4 | .... | 22 | .... | . | 7 | 21 | 32 | 85 | 109 | 9 | 58 | 37 | 88 | 135 | 26 | 47 | 49 | 74 |
| ... | .. | 3 | ... | .. | 1 | 4 | 8 | 21 | 21 | 3 | 6 | 6 | 16 | 26 | 7 | 5 | 5 | 15 |
| ... | .. | 10 | .... | .. | .. | .. | 2 | 4 | 7 | ... | 4 | .. | 2 | 1 | 1 | 2 | 2 | 6 |
| .. | .... | 1 | .... | .. | 1 | 3 | 3 | 15 | 19 | .. | .... | 1 | 13 | 18 | 1 | 1 | 5 | 3 |
| ... | .... | 2 | .... | .. | .. | .. | 4 | .... | 2 | .... | 2 | 1 | 2 | 4 | 2 | 1 | .. | 2 |
| ... | .... | .... | .... | .. | .. | .. | 1 | 1 | 1 | .... | 1 | .. | 1 | .... | .... | 1 | .. | 2 |
| ... | .... | .... | .... | .. | .. | 1 | .... | 1 | 2 | .... | 2 | 3 | 1 | 3 | .... | 2 | 1 | 1 |
| ... | .... | .... | .... | .. | .. | .. | .... | 4 | .... | .... | 1 | .. | 7 | 6 | 1 | 1 | .... | 1 |
| ... | .... | 1 | .. | .. | .... | 1 | .... | 1 | .. | .... | 1 | 1 | .... | 3 | 1 | 2 | .... | 4 |
| ... | .... | .. | .. | .. | .... | .. | .... | .... | 1 | .... | .. | .... | 1 | 1 | 1 | .... | .... | .. |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 1 | .... | 3 | .... | .... | .... | 1 |
| 1 | ... | ... | .... | .... | 1 | .. | 3 | 3 | 4 | .... | .. | 1 | 7 | 2 | 1 | 6 | 3 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 3 | 3 | .... | 2 | .... | 1 | .... | .... | 1 | 1 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .. | .... | 1 | 1 | .... | .... | .. | 1 |
| 1 | ... | 1 | .... | .... | .... | 1 | 1 | 1 | 2 | ... | 4 | .... | 2 | 9 | .. | 2 | 2 | 6 |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 1 | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | 1 |
| ... | .... | 1 | ... | ... | 1 | 1 | 4 | 5 | 2 | 2 | 1 | 4 | 2 | 2 | .... | 1 | 1 | 3 |
| .. | .... | .... | .... | .... | 1 | .. | 1 | 1 | 1 | .... | .... | 1 | 3 | 1 | .... | 1 | 2 | .. |
| 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 | 1 | 1 | 6 | 1 | 3 | 1 | 1 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| HUDSON VAL. DIST.—(*Cont'd*). | | | | | | | | |
| Warwick | 6,000 | 7 | 14.00 | 0 | ... | 142.85 | ... | ... |
| Goshen | 4,646 | 4 | 10.32 | 0 | ... | ... | ... | ... |
| Montgomery | 5,259 | 7 | 15.96 | 1 | 14.3 | 142.85 | ... | ... |
| Haverstraw | 7,714 | 15 | 23.40 | 0 | ... | 66.66 | 1 | ... |
| *Nyack* | 5,603 | 3 | 7.00 | 1 | 33.3 | ... | ... | ... |
| Ramapo | 6,600 | 7 | 12.74 | 3 | 42.8 | ... | ... | ... |
| Rest of District | ..... | 245 | ..... | 35 | 14.3 | 90.00 | ... | 6 |
| ADIRONDACK & NORTH'N DIST.: | | | | | | | | |
| Totals | ..... | 281 | ..... | 50 | 17.8 | 57.18 | ... | 4 |
| WATERTOWN | 16,982 | 22 | 15.83 | 5 | 22.8 | 90.91 | ... | 1 |
| Ellisburgh | 4,223 | 3 | 8.50 | 1 | 33.3 | ... | ... | ... |
| Cape Vincent | 3,000 | 4 | 16.00 | 0 | .... | .... | .... | .... |
| Clayton | 4,250 | 4 | 11.50 | 0 | .... | .... | .... | .... |
| OGDENSBURG | 11,959 | 12 | 12.00 | 3 | 25.0 | 200.00 | .... | .... |
| Gouverneur | 5,921 | 9 | 18.24 | 4 | 44.4 | .... | .... | .... |
| *Potsdam* | 4,000 | 3 | 9.00 | 0 | .... | .... | .... | .... |
| Canton | 6,013 | 2 | 4.00 | 0 | .... | .... | .... | .... |
| *Malone* | 5,000 | 6 | 14.40 | 0 | .... | .... | .... | .... |
| *Plattsburgh* | 7,010 | 8 | 13.70 | 0 | .... | 250.00 | .... | .... |
| *Glens Falls* | 9,509 | 11 | 13.86 | 3 | 27.3 | 90.90 | .... | .... |
| *Whitehall* | 4,434 | 4 | 12.00 | 1 | 25.0 | .... | .... | .... |
| Fort Edward | 4,382 | 6 | 16.38 | 3 | 50.0 | .... | .... | .... |
| Kingsbury | 5,112 | 7 | 16.42 | 0 | ... | 142.85 | .... | 1 |
| Granville | 5,281 | 6 | 16.00 | 2 | 33.3 | .... | .... | .... |
| Greenwich | 4,431 | 4 | 11.00 | 0 | ... | 250.00 | .... | 1 |
| Rest of District | ..... | 170 | ..... | 28 | 16.5 | 41.20 | ... | 1 |
| MOHAWK VALLEY DISTRICT: | | | | | | | | |
| Totals | ..... | 382 | ..... | 73 | 19.1 | 81.15 | 4 | 3 |
| SCHENECTADY | 22,858 | 31 | 16.27 | 10 | 32.2 | 193.55 | .... | .... |
| Cobleskill | 3,436 | 5 | 17.50 | 0 | ... | 200.00 | ... | 1 |
| AMSTERDAM | 18,542 | 27 | 17.17 | 6 | 22.2 | 222.22 | 1 | 1 |
| *Fort Plain* | 3,000 | 2 | 8.00 | 0 | ... | .... | .... | .... |
| *Johnstown* | 7,768 | 14 | 21.56 | 3 | 21.4 | 142.85 | .... | .... |
| GLOVERSVILLE | 14,694 | 22 | 18.00 | 2 | 9.0 | 45.45 | .... | .... |
| *Little Falls* | 8,783 | 8 | 12.00 | 1 | 12.5 | 125.00 | .... | .... |
| *Herkimer* | 3,000 | 5 | 20.00 | 0 | .... | .... | .... | .... |
| *Ilion* | 4,057 | 6 | 17.86 | 1 | 16.7 | .... | .... | .... |
| UTICA | 46,608 | 75 | 19.36 | 14 | 18.6 | 13.20 | ... | .... |
| Whitestown | 5,225 | 9 | 20.70 | 2 | 22.2 | 111.11 | ... | .... |
| ROME | 13,638 | 8 | 7.50 | 0 | ... | 125.00 | 1 | .... |
| Boonville | 3,512 | 2 | 8.00 | 1 | 50.0 | 500.00 | .... | .... |
| Camden | 3,675 | 5 | 16.32 | 3 | 60.0 | .... | .... | .... |
| Waterford | 5,522 | 12 | 26.00 | 6 | 50.0 | 166.67 | ... | ... |
| *Ballston Spa* | 3,527 | 1 | ... | 1 | ... | .... | 1 | .... |
| *Saratoga Springs* | 12,000 | 8 | 8.00 | 0 | ... | .... | .... | .... |
| Rest of District | ..... | 142 | ... | 23 | 15.7 | 50.00 | 1 | 1 |
| SOUTHERN TIER DISTRICT: | | | | | | | | |
| Totals | ..... | 329 | ..... | 59 | 16.2 | 130.00 | 3 | 3 |
| BINGHAMTON | 34,514 | 50 | 18.38 | 13 | 26.0 | 220.00 | .... | 1 |
| *Owego* | 6,000 | 6 | 12.00 | 1 | 16.7 | 166.67 | ... | ... |
| *Waverly* | 4,123 | 5 | 14.30 | 1 | 20.0 | 200.00 | .... | .... |
| ELMIRA | 30,000 | 33 | 13.20 | 7 | 21.2 | 60.60 | 1 | 1 |
| Horseheads | 3,319 | 1 | .... | 0 | ... | .... | .... | .... |
| HORNELLSVILLE | 11,898 | 12 | 13.50 | 3 | 25.0 | 166.67 | ... | ... |
| *Bath* | 3,261 | 3 | 11.00 | 0 | ... | .... | .... | .... |

FOR JUNE — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (no. diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | 1 | .... | .... | .... | .. | ..... | 2 | ..... | 1 | 2 | .... | 1 | ..... | ... | ... | ... | ... |
| ... | .... | ... | ... | ... | .... | .. | ..... | 1 | ..... | ... | .... | .... | 1 | ..... | ... | ... | 1 | ... |
| ... | .... | .... | .... | .... | .... | 1 | ..... | ... | 1 | .... | .... | 1 | ..... | 2 | 1 | ... | 1 | ... |
| ... | .... | .... | .... | .... | .... | .. | ..... | 1 | 4 | .... | 1 | 2 | ..... | 1 | ... | 1 | ... | 4 |
| ... | .... | .... | .... | .... | .... | .. | ..... | ... | ... | .... | ... | 1 | ..... | 2 | ... | ... | ... | ... |
| ... | .... | 2 | ... | .... | 2 | 7 | 5 | 2 | ... | .... | 1 | ... | ..... | 3 | ... | ... | 1 | ... |
| ... | .... | 2 | ... | .... | 2 | 7 | 5 | 18 | 33 | 2 | 27 | 13 | 30 | 40 | 8 | 16 | 21 | 15 |
| ... | .... | 1 | 1 | .... | 1 | 3 | 6 | 20 | 40 | 1 | 25 | 17 | 31 | 34 | 9 | 17 | 38 | 33 |
| ... | .... | .... | .... | .... | .... | .... | 1 | 2 | 4 | .... | 1 | .... | 4 | 2 | .... | 3 | 4 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 | .... | ... | .... | ... | 1 | .... | ... | ... | ... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ... | ... | .... | ... | ... | 1 | ... | .... | 1 | ... | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ... | 1 | .... | ... | ... | 2 | ... | .... | ... | 1 | .. |
| ... | .... | .... | .... | .... | .... | .... | 2 | 1 | 1 | .... | ... | 1 | 2 | 1 | .... | 1 | 1 | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | 2 | .... | 2 | 1 | ... | 2 | .... | .... | 1 | .. |
| .. | .... | .... | .... | .... | .... | .... | ..... | .. | .. | .... | 1 | ... | ..... | 1 | .... | .... | .. | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ... | ... | .... | ... | 1 | 1 | ... | .... | ... | ... | ... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ... | ... | .... | ... | ... | 1 | 1 | .... | ... | 2 | 2 |
| ... | .... | .... | .... | .... | .... | 2 | ..... | 1 | ... | .... | 1 | ... | 1 | ... | 1 | .... | ... | 2 |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 2 | 1 | .... | 2 | ... | ..... | ... | .... | .... | 2 | 3 |
| ... | .... | .... | .... | .... | .... | .. | ..... | 2 | 2 | .. | ... | ... | ..... | ... | .... | ... | ... | ... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ... | ... | .... | ... | ... | ..... | 2 | .. | 2 | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ... | 2 | .... | ... | ... | 1 | 2 | .... | ... | ... | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | ... | .... | ... | ... | ... | ... | 1 | 2 | ... | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ... | 1 | .... | ... | ... | 1 | 1 | .... | ... | ... | ... |
| ... | .... | 1 | 1 | .... | 1 | .... | 3 | 9 | 25 | 1 | 18 | 14 | 17 | 21 | 7 | 8 | 26 | 17 |
| 2 | ... | 6 | 4 | .... | .... | 4 | 8 | 43 | 54 | 3 | 26 | 20 | 37 | 53 | 20 | 32 | 36 | 27 |
| ... | .... | 2 | ... | ... | .... | 1 | 3 | 2 | 2 | ... | 3 | 1 | 5 | 7 | 1 | 3 | 1 | ... |
| ... | .... | 2 | 2 | .... | .... | .... | ..... | 3 | 6 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 1 | .... |
| ... | ... | 1 | ... | .... | .... | 1 | ..... | 1 | 1 | ... | 1 | .... | 2 | 2 | .... | 3 | ... | 3 |
| ... | .... | .... | 1 | .... | .... | .... | ..... | .... | 5 | .... | 1 | .... | 2 | 4 | 2 | 2 | 2 | 3 |
| ... | .... | .... | .... | .... | .... | 1 | ..... | .... | .... | .... | 1 | .... | .... | 1 | .... | 3 | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | 1 | 1 | ..... | .... | ..... | 1 | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | .... | 2 | .... | .... | 1 | .... | .... | .... | .... | 2 | 1 |
| ... | .... | .... | 1 | .... | .... | 1 | ..... | 20 | 11 | .... | 5 | 7 | 10 | 10 | 3 | 5 | 3 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 | .... | 1 | .... | 1 | 1 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 | .... | 2 | .... | ..... | .... | 1 | .... | 1 | .... |
| ... | .... | 1 | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | ..... | 1 | .. | .. | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | .... | 1 | .... | 1 | .. | ..... | 1 | .. | .. | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | 1 | .. | ..... | 3 | 1 | .... | 2 | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | .... | 3 | .... | .... | 1 | .... | 3 | .. | .... | .... | 1 |
| 2 | .... | .. | .... | .... | .... | .... | 3 | 11 | 20 | 1 | 5 | 8 | 14 | 17 | 9 | 14 | 18 | 15 |
| 1 | .... | 3 | 10 | 1 | 10 | 10 | 6 | 29 | 35 | 5 | 23 | 24 | 27 | 46 | 10 | 23 | 31 | 24 |
| ... | .. | 1 | 8 | .... | .... | 1 | ..... | 6 | 4 | ... | 1 | 3 | 2 | 10 | 3 | 2 | 5 | 3 |
| ... | .... | .... | .... | .... | .... | .. | 1 | .... | 2 | .... | ..... | .... | 2 | .... | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .. | 1 | .... | .... | .... | ..... | .... | .... | 2 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 3 | 5 | 1 | 3 | 2 | 2 | 5 | .... | 2 | 1 | 7 |
| ... | .... | .... | .... | .... | .... | .... | ..... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | 2 | ..... | 3 | ..... | 1 | ..... | 1 | 1 | 1 | .... | 1 | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | .... | .... | .... | ..... | .... | .... | ..... | 1 | .... | 1 | 1 |

| | Population | Total number of deaths | Rate per cent. annual death rate per 1,000 of | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| [illegible] | | | | | | | | |
| [illegible] | | 14 | 16.78 | 2 | 14.3 | 357.14 | 1 | ... |
| [illegible] | | | | 0 | | | | |
| [illegible] | | 11 | 17.38 | 5 | 45.5 | 181.81 | ... | ... |
| [illegible] | | | | 0 | | | | |
| [illegible] | | 30 | 19.32 | 10 | 30.0 | 333.33 | 3 | ... |
| [illegible] | | 9 | 24.00 | 3 | | 333.33 | | ... |
| [illegible] | | 9 | 21.95 | 1 | 16.7 | 333.33 | ... | ... |
| [illegible] | | 111 | | 16 | 10.7 | 90.90 | 3 | 1 |
| [illegible] | | | | | | | | |
| [illegible] | | 154 | | 70 | 19.9 | 124.28 | 3 | 4 |
| [illegible] | | 128 | 19.44 | 30 | 23.8 | 182.54 | 1 | 3 |
| [illegible] | | 4 | 16.00 | 0 | | 250.00 | ... | ... |
| [illegible] | | 10 | 14.30 | 3 | 30.0 | ... | ... | ... |
| [illegible] | | 8 | 12.60 | 1 | 12.5 | ... | ... | ... |
| [illegible] | | 2 | 40.00 | 1 | 50.0 | ... | ... | ... |
| [illegible] | | 2 | 40.00 | 2 | 100.0 | ... | ... | ... |
| [illegible] | | 8 | 12.90 | 1 | 12.5 | ... | ... | .... |
| [illegible] | | 1 | | 0 | | ... | ... | ... |
| [illegible] | | 1 | | 0 | | ... | ... | ... |
| [illegible] | | 3 | | 1 | 33.3 | ... | ... | ... |
| [illegible] | | 10 | | 5 | 50.0 | 500.00 | ... | ... |
| [illegible] | | 1 | | 0 | | ... | ... | ... |
| [illegible] | | 6 | | 1 | 16.7 | ... | ... | ... |
| [illegible] | | 5 | | 2 | 40.0 | 400.00 | 1 | ... |
| [illegible] | | 1 | | 0 | | ... | ... | ... |
| [illegible] | | 160 | | 28 | 17.5 | 101.70 | 1 | 1 |
| [illegible] | | | | | | | | |
| [illegible] | | 129 | | 33 | 12.6 | 108.85 | 1 | 1 |
| [illegible] | | 8 | 12.00 | 1 | 12.4 | 175.00 | 1 | ... |
| [illegible] | | 4 | 12.00 | 1 | 12.5 | 250.00 | ... | .... |
| [illegible] | | 3 | 7.50 | 0 | ... | ... | ... | .... |
| [illegible] | | 1 | | 1 | | | ... | .... |
| [illegible] | | 4 | 8.00 | 1 | 25.0 | 250.00 | ... | ... |
| [illegible] | | 3 | | 0 | | ... | ... | .... |
| [illegible] | | 2 | | 1 | 50.0 | | ... | .... |
| [illegible] | | 5 | 14.28 | 0 | ... | 400.00 | ... | .... |
| [illegible] | | 3 | 20.00 | 0 | | | ... | .... |
| [illegible] | | 5 | 13.74 | 1 | 14.3 | 285.70 | ... | ... |
| [illegible] | | 6 | 20.00 | 3 | 50.0 | 166.67 | ... | ... |
| [illegible] | | 4 | 24.00 | 1 | 25.3 | ... | ... | ... |
| [illegible] | | 1 | 6.00 | 0 | ... | ... | ... | ... |
| [illegible] | | 153 | | 17 | 10.2 | 67.46 | ... | 1 |
| LAKE ONTARIO AND WEST. DIST. | | | | | | | | |
| [illegible] | | 945 | | 217 | 25.5 | 117.65 | 6 | 17 |
| BUFFALO | 260,000 | 372 | 15.40 | 144 | 38.6 | 153.15 | 5 | 4 |
| TONAWANDA | 7,145 | 9 | 15.40 | 3 | 33.3 | 333.33 | ... | 1 |
| Amherst | 3,960 | 5 | 15.10 | 0 | ... | ... | ... | ... |
| North Tonawanda | 4,800 | 4 | 10.00 | 2 | 50.0 | 250.00 | ... | 1 |
| Lockport | 16,088 | 8 | 6.00 | 0 | ... | 125.00 | ... | ... |
| Niagara Falls | 5,502 | 11 | 23.98 | 2 | 18.2 | 181.82 | ... | 1 |
| Hamburg | 4,500 | 5 | 13.33 | 0 | ... | 200.00 | ... | ... |
| Alden | 4,596 | 5 | 13.05 | 1 | 20.0 | ... | ... | ... |
| [illegible] | 8,742 | 4 | 12.10 | 1 | 12.5 | 125.00 | ... | 1 |
| [illegible] | 144,634 | 195 | 16.15 | 39 | 20.0 | 76.00 | ... | 6 |

FOR JUNE — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | 1 | .... | .... | 1 | 2 | ..... | 2 | .... | 3 | 1 | ..... | 2 | ... | 1 | .... | .... |
| ... | .... | ... | .... | .... | .... | .... | ..... | ..... | ... | .... | .... | .... | ..... | .... | .... | .... | .... | .... |
| ... | .... | 2 | .... | .... | .... | .... | ..... | 1 | 1 | .... | 1 | 2 | 1 | 2 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | 10 | .... | ..... | 4 | 5 | 1 | 1 | 2 | 1 | 1 | .... | 1 | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | 1 | 1 | 1 | .... |
| ... | .... | .... | .... | .... | .... | 2 | ..... | 1 | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 | .... |
| 1 | ... | .... | 1 | 1 | .... | 4 | 1 | 11 | 16 | 2 | 14 | 11 | 16 | 23 | 4 | 15 | 18 | 9 |
| 2 | ... | 1 | 4 | 2 | 1 | 19 | 8 | 30 | 51 | 5 | 33 | 19 | 38 | 33 | 21 | 17 | 36 | 27 |
| 1 | .... | .... | 1 | 1 | ... | 10 | 6 | 16 | 21 | 1 | 13 | 2 | 7 | 8 | 12 | 9 | 5 | 9 |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 1 | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | ... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | .. | .... | 2 | .... | 1 | ..... | .... | 1 | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 | .... | .... | 1 | 1 | 1 | .... | 2 | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 | 1 | .... | .... | .... | 1 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 | .... | ..... | .... | 1 | 1 | .... | 1 | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 | .... | .... | 1 | 2 | .... | 1 | 1 | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | .... | 1 | 1 | 2 | 1 | 1 | 1 | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | .... | ..... | 1 | ..... | 1 | .... | 1 | 1 | .... |
| ... | .... | .... | 1 | .... | .... | .... | ..... | ..... | .... | .... | ..... | .... | .... | 1 | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | 1 | 1 | .... | 1 | 2 | .... | .... | 1 | 1 |
| 1 | ... | .... | .... | .... | .... | .... | ..... | ..... | 1 | .... | ..... | .... | .... | ..... | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| ... | .... | 1 | 2 | 1 | 1 | 8 | 2 | 12 | 20 | 2 | 14 | 13 | 21 | 18 | 7 | 3 | 21 | 12 |
| ... | .... | 4 | 4 | .... | 2 | 13 | 2 | 15 | 31 | 2 | 14 | 12 | 27 | 40 | 13 | 17 | 31 | 30 |
| ... | .... | 3 | .... | .... | .... | 3 | 1 | 1 | 10 | .... | 4 | .... | 2 | 6 | 2 | 3 | 2 | 1 |
| ... | .... | .... | 2 | .... | .... | .... | ..... | ..... | ..... | .... | 1 | 1 | 2 | .... | 2 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | 1 | ..... | 1 | .... | .... | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | 1 | ..... | ..... | 1 | .... | ..... | .... | 1 | .... | .... | 1 | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | .... | 1 | .... | 2 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | 2 | ..... | ..... | 1 | .... | 1 | 1 | .... | .... | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 | .... | .... | 2 | .... | .... | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | 2 | ..... | ..... | 1 | .... | ..... | .... | 2 | 1 | .... | 1 | 1 | .... |
| ... | .... | .... | .... | .... | 1 | .... | ..... | ..... | .... | .... | ..... | .... | 2 | .... | .... | 2 | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | .... | ..... | .... | .... | 1 | .... | .... | 1 | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | 1 | ..... | .... | ..... | .... | .... | 2 | .... | .... |
| ... | .... | 1 | 2 | .... | 1 | 5 | 1 | 14 | 17 | ... | 7 | 7 | 16 | 32 | 9 | 9 | 25 | 16 |
| 3 | . | 21 | 8 | 2 | 5 | 17 | 21 | 83 | 92 | 4 | 63 | 37 | 77 | 130 | 31 | 77 | 67 | 87 |
| 1 | ... | 13 | 4 | ... | 2 | 12 | 16 | 46 | 34 | .... | 32 | 7 | 23 | 56 | 8 | 42 | 24 | 43 |
| .. | .... | .... | 1 | .. | .... | .... | 1 | 1 | .. | .... | 2 | 1 | .... | 1 | .... | 1 | .... | .... |
| . | .... | .... | .... | .. | .... | .... | ..... | ..... | 2 | .... | .... | .... | 2 | .... | 1 | .... | .... | .... |
| .... | .. | .... | .... | .... | .... | .... | ..... | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... |
| .... | .... | .... | .... | .... | .... | .... | 1 | ..... | .... | .... | .... | .... | 4 | 1 | .... | .... | 1 | .... |
| .... | .... | .... | 1 | .... | .... | .... | ..... | 2 | .... | .... | 2 | .... | 1 | 2 | 1 | .... | .... | 1 |
| .... | .. | 1 | .... | .... | .... | .... | ..... | ..... | .... | 1 | 1 | 1 | ..... | ..... | 1 | .... | .... | .... |
| .... | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 | .... | 1 | .... | ..... | ..... | .... | .... | 2 | 1 |
| 1 | .... | 4 | .... | 2 | .... | 3 | 1 | 24 | 24 | 1 | 7 | 13 | 16 | 2 37 | 9 | 11 | 18 | 20 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONTARIO AND WESTERN DISTRICT—(*Continued*). | | | | | | | | |
| Palmyra | 4,173 | 3 | .... | 0 | .... | ..... | .. | .... |
| *Newark* | 3,000 | 2 | 8.00 | 0 | .... | ..... | ... | .... |
| Lyons | 6,127 | 9 | ..... | 2 | 22.2 | .. ... | ... | .... |
| *Clyde* | 3,000 | 2 | 8.00 | 0 | .... | ..... | ... | .... |
| Oswego | 21,966 | 23 | 12.54 | 4 | 17.4 | 86.95 | .... | 1 |
| *Fulton* | 4,214 | 1 | ..... | 0 | .... | ..... | ... | ... |
| Richland | 3,637 | 2 | 6.66 | 0 | ... | ..... | ... | ... |
| Rest of District | ..... | 183 | .... .. | 19 | 10.4 | 92.85 | 1 | 4 |
| Totals for the State | ..... | 8,728 | ..... | 2,885 | 33.0 | 162.88 | 96 | 83 |
| Average for June for past 7 years | ..... | 8,040 | .... | 3,030 | 37.7 | 213.93 | 43 | 58 |
| Totals for May, 1893 | ..... | 10,718 | ... .. | 3,081 | 28.7 | 128.98 | 159 | 93 |

REMARKS.—June and November are the two healthiest months in this State; there was as November. The epidemic of Grippe, which began in March, has practically come to an end in some time yet; the present epidemic is estimated to have caused 4,300 deaths and is the mildest large towns, representing a population of 4,765,000, was 18.50, and of the entire State, allowing mortality is Diarrhœa, but the customary rise in the number of deaths from diarrhœal diseases in the Maritime district, is decreasing. Diptheria has diminished in mortality, as is customary. being reported, and in Sing Sing, 9 cases reported; the ten deaths all occurred in the Maritime local diseases have a largely diminished mortality. The diminution in mortality, from all causes, districts where the death-rate is less than it was a year ago. During the six months of the year The weather during the month was generally fair—equable. The mean average barometer was 1.45 inches less than the normal. The average thermometer was 69°, with little variation

FOR JUNE — (*Concluded*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | . . | .... | .... | .... | .... | ..... | ..... | 2 | .... | ... | ... | 1 | .. .. | ... | .... | ... | .... |
| ... | .. | .... | .... | .. | .... | .... | ..... | ..... | ..... | .... | ..... | ... | ..... | 2 | ... | .. | ... | .... |
| ... | .... | .... | .. | .... | .... | .... | .. .. | 1 | 1 | .... | ..... | 1 | ..... | 1 | .... | 3 | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ... . | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | .... |
| ... | .... | .... | .... | .. .. | .... | 1 | .... | .... | 3 | .... | 2 | 2 | 4 | 2 | 3 | 1 | 1 | 3 |
| ... | .... | .... | . . | .... | .... | .... | ..... | ..... | .... | .... | .. .. | .. | .. | 1 | .... | .... | .... | .... |
| ... | .. | .. | .. | .... | .... | .... | .... | ..... | 1 | .... | .... | .. | .... | .. .. | ... | .... | 1 | .... |
| 1 | .... | 3 | 2 | . | 3 | 1 | 7 | 8 | 23 | 2 | 14 | 12 | 25 | 23 | 8 | 19 | 19 | 12 |
| 42 | 10 | 154 | 99 | 24 | 77 | 359 | 478 | 1,010 | 1,065 | 67 | 612 | 503 | 679 | 1,108 | 241 | 564 | 384 | 1073 |
| 60 | 4 | 142 | 124 | 25 | 59 | 385 | 816 | 815 | 928 | 82 | 560 | 400 | 531 | 936 | 215 | 407 | 413 | 1020 |
| 40 | 21 | 193 | 92 | 43 | 127 | 439 | 175 | 1,944 | 1,329 | 86 | 660 | 664 | 834 | 1,287 | 286 | 544 | 508 | 1284 |

average daily mortality this month of 291, which is the lowest for two years, excepting last its active prevalence, although deaths continue to be reported as due to its effect, and will be for of the series occurring during the past three and one-half years. The death-rate in 145 cities and for returns yet to come in, about 17.50. Of Zymotic diseases, the only one showing an increase in June is less than usual by one-third. Whooping Cough, which has been prevalent, especially in Scarlet Fever is less prevalent than a year ago. Small-pox has developed in Yonkers, 15 cases District. Acute Respiratory diseases caused little more than half the mortality of May, and all is distributed through all parts of the State, but most markedly in the Eastern and Northern there have been 63,154 deaths, making a death-rate of about 21.30 per 1,000 population, annually, 20.00 with but little variation; the rain fall was 2.05 inches, which is 3 inches less than in May and throughout the State, and was three degrees above the normal.

MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths and causes in the following*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Roman

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | | 8,340 | | 4,871 | 58.6 | 372.50 | 71 | 41 |
| NEW YORK CITY | 1,860,803 | 4,725 | 29.87 | 2,796 | 59.2 | 377.85 | 52 | 21 |
| BROOKLYN | 978,394 | 2,459 | 29.57 | 1,514 | 61.2 | 376.42 | 11 | 10 |
| Gravesend | 8,418 | 30 | 42 90 | 18 | 60.0 | 566 67 | 1 | ... |
| New Utrecht | 9,129 | 34 | 44.70 | 19 | 56.0 | 382.36 | ... | ... |
| LONG ISLAND CITY | 35,745 | 148 | 48.00 | 96 | 64.8 | 430 10 | 1 | ... |
| Newtown | 19,776 | 55 | 33.38 | 32 | 55.0 | 400.00 | ... | ... |
| Oyster Bay | 14,887 | 29 | 23.34 | 14 | 50.0 | 433 80 | ... | 1 |
| Hempstead | 23,991 | 33 | 17.00 | 9 | 25 2 | 212.12 | 1 | ... |
| North Hempstead | 8,726 | 18 | 24.84 | 8 | 44.4 | 166.67 | ... | ... |
| Jamaica | 17,654 | 52 | 35.36 | 32 | 60.0 | 300.00 | ... | ... |
| Flushing | 20,816 | 54 | 31.15 | 27 | 50.0 | 370.37 | 1 | 1 |
| Southold | 7,671 | 2 | ... | 14 | .... | ..... | ... | ... |
| *Sag Harbor* | 3,000 | 6 | 24.00 | 2 | 33.3 | 166.67 | ... | ... |
| Huntington | 8,253 | 13 | 19 00 | 4 | 30.6 | 230.68 | ... | ... |
| Brookhaven | 13,493 | 24 | 21 60 | 5 | 20.8 | 83 33 | ... | ... |
| *New Brighton* | 16,423 | 39 | 28.50 | 23 | 59.0 | 461.80 | ... | ... |
| *Edgewater* | 14,265 | 34 | 28.56 | 19 | 55.8 | 264.70 | ... | 1 |
| *Port Richmond* | 6,390 | 9 | 16.88 | 5 | 55.5 | 555.55 | ... | ... |
| Westfield | 8,648 | 13 | 18.07 | 5 | 38.5 | 307.70 | ... | ... |
| YONKERS | 34,000 | 86 | 30.35 | 58 | 67.4 | 534.85 | ... | 1 |
| Westchester | 8,326 | 27 | 38.88 | 19 | 70.0 | 444.44 | ... | ... |
| Greenburgh | 11,630 | 14 | ..... | 8 | 57 1 | 571.42 | 1 | ... |
| MOUNT VERNON | 15,513 | 47 | 36.28 | 26 | 55.3 | 468.10 | ... | ... |
| *Port Chester* | 5,274 | 13 | 27.95 | 5 | 38.4 | 384.61 | ... | ... |
| *Sing Sing* | 9,352 | 18 | 23.10 | 9 | 50.0 | 166.67 | ... | ... |
| *New Rochelle* | 8,217 | 13 | 18.85 | 7 | 53.8 | 384.62 | ... | ... |
| *Peekskill* | 9,676 | 16 | 19.84 | 8 | 50.0 | 437.50 | ... | ... |
| *White Plains* | 4,042 | 16 | 47.25 | 6 | 37.5 | 187.50 | 2 | ... |
| Rest of District | ... | 313 | ... | 111 | 35.4 | 266.00 | 1 | 5 |
| HUDSON VALLEY DISTRICT: Totals | ..... | 1,009 | ..... | 344 | 34.0 | 251.75 | 5 | 11 |
| ALBANY | 98,000 | 176 | 21.55 | 67 | 38.0 | 193.20 | 2 | 1 |
| COHOES | 23,234 | 44 | 22.74 | 22 | 50.0 | 477.26 | ... | ... |
| TROY | 64,986 | 126 | 23.31 | 41 | 32.5 | 277.77 | ... | ... |
| *West Troy* | 12,967 | 36 | 33.20 | 14 | 38.8 | 277.78 | ... | 1 |
| *Green Island* | 4,463 | 11 | 29.56 | 4 | 36.4 | 272 73 | ... | 1 |
| *Lansingburgh* | 10,550 | 17 | 19.33 | 7 | 41.2 | 235.30 | ... | ... |
| *Hoosick Falls* | 7,014 | 6 | ..... | 2 | 33.3 | 666.66 | 1 | ... |
| *Greenbush* | 7,462 | 10 | 16.44 | 3 | 30.0 | 300.00 | ... | ... |
| COXSACKIE | 3,824 | ... | ..... | ... | ... | ..... | ... | ... |
| *Catskill* | 4,920 | 6 | 13.58 | 3 | 50.0 | ..... | ... | 1 |
| HUDSON | 9,633 | 14 | 17.36 | 3 | 21.4 | 142.85 | ... | ... |
| KINGSTON | 21,500 | 32 | 17.92 | 13 | 40.6 | 281.25 | 1 | ... |
| *Ellenville* | 3,000 | 4 | 16.00 | 1 | 25.0 | ... | ... | ... |
| Marbletown | 3,689 | 7 | 23.10 | 1 | 14 3 | 285 70 | ... | ... |
| Rosendale | 6,125 | 6 | 12.00 | 1 | 16 7 | 166.67 | ... | ... |
| Esopus | 5,035 | 6 | 14.40 | 2 | 22 2 | ... | ... | ... |
| *Saugerties* | 4,237 | 6 | 17.00 | 4 | 66.6 | 333 33 | ... | ... |
| POUGHKEEPSIE | 23,200 | 46 | 23.78 | 21 | 45.6 | 369.20 | ... | ... |
| *Fishkill* | 3,617 | 9 | 29.70 | 4 | 44.4 | 444.44 | ... | ... |
| *Wappinger Falls* | 3,718 | 2 | 6.44 | 1 | 50.0 | ... | ... | ... |
| NEWBURGH | 24,536 | 61 | 29.89 | 27 | 44.2 | 409.50 | 1 | 3 |
| *Port Jervis* | 9,327 | 14 | 18.92 | 6 | 42.8 | 287 10 | ... | ... |
| MIDDLETOWN | 11,612 | 27 | 27.27 | 10 | 37.0 | 296.22 | ... | ... |

## YORK STATE BOARD OF HEALTH.

*districts, cities and towns, during July*, 1893.

type. For boundaries of *Sanitary Districts*, see Annual Summary.]

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 16 | 46 | 58 | 9 | 70 | 268 | 2,504 | 556 | 693 | 47 | 826 | 379 | 387 | 760 | 163 | 322 | 105 | 988 |
| 12 | 2 | 34 | 36 | 8 | 45 | 188 | 1,382 | 320 | 393 | 31 | 487 | 226 | 224 | 353 | 98 | 196 | 35 | 582 |
| 12 | .... | 7 | 10 | 1 | 15 | 41 | 820 | 176 | 196 | 14 | 259 | 99 | 92 | 264 | 50 | 64 | 32 | 286 |
| .. | .... | .... | .... | .... | 1 | .... | 15 | .. | 1 | .... | 1 | 2 | 5 | 2 | .... | 2 | .. | .. |
| .. | .... | .... | .... | .... | .. | .... | 13 | 2 | 3 | .... | 3 | 3 | .. | 2 | .... | 3 | 2 | 3 |
| 1 | .... | .... | 6 | .... | 1 | 14 | 40 | 6 | 7 | .... | 8 | 9 | 4 | 17 | 2 | 6 | 3 | 23 |
| 1 | .... | .... | 1 | .... | 2 | 1 | 17 | 3 | 4 | .... | 4 | 2 | 5 | 5 | .. | 4 | 1 | 5 |
| .. | .. | 1 | .... | .... | 1 | 1 | 8 | .. | 3 | .... | 3 | 1 | .. | .. | 1 | 1 | 1 | 7 |
| .. | .... | .... | .... | .... | .. | .. | 6 | 3 | 2 | .... | 4 | 1 | 3 | 5 | 1 | 5 | .. | 8 |
| 1 | .... | .... | .... | .... | .. | 1 | 1 | 1 | 3 | .... | 2 | .. | 1 | 4 | .. | 2 | .. | 2 |
| .. | .... | .... | .... | .... | 2 | .. | 13 | 2 | 3 | .... | 5 | 3 | 3 | 8 | .. | 6 | 1 | 6 |
| 1 | .... | .... | .... | .... | 1 | 3 | 13 | 1 | 3 | .... | .. | 2 | 5 | 11 | .. | 4 | .. | 8 |
| .. | .... | .... | .... | .... | .. | .. | .. | .. | .. | .... | 1 | .. | .. | .. | .. | .. | .. | 1 |
| .. | .... | .... | .... | .... | .. | .. | 1 | 1 | .. | 1 | .. | 1 | .. | .. | .. | 1 | .. | 1 |
| .. | .... | .... | .... | .... | .. | .. | 3 | .. | 1 | .... | 3 | 1 | .. | 1 | 1 | 1 | 1 | 1 |
| .. | .... | .... | .... | .... | .. | .. | 2 | 1 | 4 | .... | 4 | 1 | 3 | 2 | 1 | 2 | 1 | 3 |
| .. | .... | 1 | .... | .... | .. | .. | 17 | 3 | 1 | .... | 6 | 3 | 2 | 2 | .. | 2 | .. | 2 |
| . | .... | .... | .... | .... | .. | .. | 8 | 2 | 4 | .... | 4 | 2 | 2 | 10 | .. | 1 | .. | .. |
| .. | .... | .... | .... | .... | .. | .. | 5 | .... | 1 | .... | .... | .. | 2 | .. | 1 | .. | .. | .. |
| .. | .... | .... | .... | .... | .. | .. | 4 | .... | .... | .... | 1 | 3 | 1 | 1 | .. | 2 | .. | 1 |
| 2 | 3 | 1 | .... | .... | .. | 2 | 36 | 7 | .... | .... | 6 | 4 | 3 | 12 | .... | 2 | 1 | 5 |
| . | .... | .... | .... | .... | .. | .. | 12 | 2 | 4 | .... | .. | 1 | 1 | 4 | .... | 1 | .. | 2 |
| .. | .... | .... | .... | .... | .. | 3 | 4 | .. | 1 | .... | 1 | .. | 1 | 1 | .... | 1 | 1 | .. |
| .. | .... | 1 | 2 | .... | .. | 1 | 18 | 3 | 2 | .... | 4 | 4 | 3 | 5 | .. | 2 | .. | 2 |
| 1 | .... | .. | .. | .... | .. | .. | 4 | 1 | .. | .... | .... | 1 | 2 | 1 | 1 | 1 | .. | 1 |
| .. | .... | 1 | .... | .... | .. | 1 | 1 | 1 | .... | .... | 1 | .. | 2 | 3 | 2 | 1 | 2 | 3 |
| .. | .... | .... | .... | .... | .. | 2 | 3 | .... | 3 | .... | .... | 1 | .. | 1 | .. | .. | 2 | 1 |
| .. | .... | .... | .... | .... | .. | .. | 7 | .... | 2 | 1 | .... | .. | 2 | 3 | .... | .... | .. | 1 |
| .. | .... | .... | .... | .... | .. | .. | 1 | 1 | 2 | .... | 1 | 1 | 1 | 4 | 1 | .. | .. | 2 |
| .. | 11 | .... | 3 | .... | 2 | 10 | 50 | 20 | 50 | .... | 18 | 8 | 20 | 39 | 4 | 12 | 22 | 38 |
| 6 | ... | 10 | 1 | 1 | 7 | 25 | 187 | 61 | 92 | 7 | 79 | 54 | 93 | 129 | 28 | 69 | 63 | 81 |
| .. | .... | 1 | .. | .. | .... | .... | 30 | 13 | 26 | 2 | 16 | 12 | 11 | 25 | 5 | 9 | 4 | 19 |
| .. | .... | 3 | .... | .... | .... | 1 | 17 | .... | 3 | .... | 3 | 2 | 3 | 2 | 2 | 1 | 3 | 4 |
| .. | .... | .... | .... | .... | 3 | 6 | 26 | 12 | 10 | .... | 11 | 6 | 19 | 12 | 4 | 6 | 6 | 5 |
| .. | .... | .... | .... | .... | .... | .... | 9 | 2 | 2 | .... | 3 | 4 | 5 | 4 | .. | 1 | 3 | 2 |
| .. | .... | .... | .... | .... | .... | .... | 2 | 1 | .. | .... | 1 | .. | .. | 3 | 1 | .. | .. | 2 |
| .. | .... | 1 | .... | .... | .... | 2 | 4 | 1 | 2 | .... | .... | .. | 1 | 6 | .... | 1 | .. | 2 |
| .. | .... | .. | .... | .... | .... | 2 | .. | .... | .... | .... | 1 | 1 | .... | .. | .... | .. | .. | .. |
| .. | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 3 | 2 | .... | 1 | .... | .... | .... | 1 |
| .. | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | 1 | .. | .. | .... | .... | .... | 1 | 3 |
| .. | .... | 3 | .... | .... | .... | .... | 2 | .... | .... | .... | 2 | 1 | 2 | 1 | 1 | 3 | 2 | .. |
| .. | .... | .. | .... | .... | .... | .... | 5 | 5 | 3 | .... | 4 | 1 | 4 | 4 | 1 | 1 | 1 | .. |
| .. | .... | .... | .... | .... | .... | .... | .. | 1 | .. | .... | .... | .. | .... | 1 | 1 | .. | .. | 1 |
| 1 | .... | .... | .... | .... | .... | .... | 1 | .. | 1 | .... | .... | .... | .... | .... | 1 | 2 | 1 | .. |
| .. | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 |
| .. | .... | .... | .... | .... | .... | .... | .. | 1 | .... | .... | 1 | .. | 1 | 1 | .. | .. | .. | 2 |
| .. | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | 1 | .. |
| 3 | .... | .... | .... | .... | .... | 2 | 12 | 2 | 4 | .... | 2 | .. | 4 | 8 | 2 | .. | 2 | 5 |
| .. | .... | .... | .... | .... | .... | .... | 4 | 1 | 2 | .... | 1 | 1 | .... | .... | .... | .... | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| .. | .... | .... | .... | .... | 1 | 4 | 16 | 1 | 2 | 1 | 3 | 1 | 3 | 3 | 2 | 9 | 5 | 1 |
| .. | .... | 1 | .... | .... | .... | .... | 3 | .... | 1 | .... | .... | .... | 2 | 3 | .... | 1 | 1 | 2 |
| .. | .... | .... | .... | .... | .... | .... | 8 | .... | 3 | .... | 2 | 1 | 1 | 8 | .... | 2 | 1 | 1 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| HUDSON VAL. DIST.—(*Cont'd*): | | | | | | | | |
| Warwick | 6,000 | 4 | 8.00 | 1 | 25.0 | ..... | .... | .... |
| Goshen | 4,646 | 8 | 20.64 | 1 | 12.5 | 250.00 | .... | .... |
| Montgomery | 5,259 | 9 | 20.52 | 5 | 55.5 | 333.33 | .... | .... |
| Haverstraw | 7,714 | 11 | 17.16 | 6 | 54.5 | 454.54 | .... | .... |
| *Nyack* | 5,603 | 9 | 19.26 | 4 | 44.4 | 555.55 | .... | .... |
| Ramapo | 6,600 | 9 | 16.38 | 6 | 66.6 | 555.55 | .... | .... |
| Rest of District | ..... | 293 | .... | 63 | 21.5 | 143.85 | .... | 4 |
| ADIRONDACK & NORTH'N DIST.: | | | | | | | | |
| Totals | ..... | 290 | .... | 55 | 19.0 | 134.45 | .... | 4 |
| WATERTOWN | 16,982 | 21 | 14.88 | 4 | 19.0 | 190.42 | .... | 1 |
| Ellisburgh | 4,223 | 5 | 14.20 | 2 | 40.0 | ..... | .... | .... |
| Cape Vincent | 3,000 | 5 | 20.00 | 0 | .... | ..... | .... | .... |
| Clayton | 4,250 | 2 | 6.00 | 0 | .... | ..... | .... | .... |
| OGDENSBURG | 11,959 | 25 | 24.85 | 12 | 48.0 | 320.00 | .... | .... |
| Governeur | 5,921 | 4 | 8.10 | 0 | .... | ..... | .... | .... |
| *Potsdam* | 4,000 | 6 | 18.00 | 2 | 33.3 | 166.67 | .... | .... |
| Canton | 6,013 | 3 | 6.00 | 0 | .... | ..... | .... | .... |
| *Malone* | 5,000 | 8 | 19.20 | 0 | .... | 250.00 | .... | 1 |
| *Plattsburgh* | 7,010 | 7 | 12.00 | 3 | 42.8 | ..... | .... | .... |
| *Glens Falls* | 9,509 | 12 | 15.12 | 5 | 41.5 | 250.00 | .... | .... |
| *Whitehall* | 4,434 | 4 | 11.00 | 3 | 75.0 | 500.00 | .... | .... |
| Fort Edward | 4,382 | 6 | 16.38 | 1 | 16.7 | 166.67 | .... | .... |
| Kingsbury | 5,112 | 5 | 12.00 | 1 | 20.0 | ..... | .... | .... |
| Granville | 5,281 | 3 | 7.00 | 1 | 33.3 | ..... | .... | .... |
| Salem | 3,167 | 2 | 7.60 | 1 | 50.0 | ..... | .... | .... |
| Greenwich | 4,431 | 3 | 8.13 | 0 | .... | ..... | .... | .... |
| Rest of District | ..... | 169 | ..... | 20 | 11.8 | 105.75 | .... | 2 |
| MOHAWK VALLEY DISTRICT: | | | | | | | | |
| Totals | ..... | 418 | ..... | 122 | 29.2 | 152.36 | 2 | 3 |
| SCHENECTADY | 22,858 | 44 | 23.10 | 22 | 50.0 | 318.18 | .... | .... |
| Cobleskill | 3,436 | 5 | 17.50 | 0 | .... | ..... | .... | .... |
| AMSTERDAM | 18,542 | 22 | 14.24 | 12 | 54.6 | 410.00 | .... | 2 |
| *Fort Plain* | 3,000 | 2 | 8.00 | 1 | 50.0 | ..... | .... | .... |
| *Johnstown* | 7,768 | 8 | 12.32 | 1 | 12.5 | ..... | .... | .... |
| GLOVERSVILLE | 14,694 | 14 | 12.00 | 2 | 14.3 | ..... | .... | .... |
| *Little Falls* | 8,783 | 6 | 8.50 | 1 | 16.7 | ..... | .... | .... |
| *Herkimer* | 3,000 | 1 | ..... | 0 | .... | ..... | .... | .... |
| *Ilion* | 4,057 | 7 | 20.89 | 2 | 28.5 | 142.85 | .... | .... |
| UTICA | 46,608 | 87 | 22.44 | 38 | 43.7 | 92.00 | .... | .... |
| Whitestown | 5,225 | 2 | ..... | 1 | 50.0 | ..... | .... | .... |
| ROME | 13,638 | 19 | 18.72 | 1 | 5.2 | 105.20 | .... | .... |
| Boonville | 3,512 | 3 | 11.00 | 0 | .... | 333.33 | .... | 1 |
| Camden | 3,675 | 7 | 22.85 | 0 | .... | ..... | .... | .... |
| Waterford | 5,522 | 12 | 26.00 | 6 | 50.0 | 333.33 | .... | .... |
| *Balleton Spa* | 3,527 | 2 | 6.80 | 1 | 50.0 | ..... | .... | .... |
| *Saratoga Springs* | 12,000 | 30 | 30.00 | 8 | 26.7 | 166.67 | .... | .... |
| Rest of District | ..... | 147 | ..... | 26 | 18.0 | 134.50 | 2 | .... |
| SOUTHERN TIER DISTRICT: | | | | | | | | |
| Totals | ..... | 396 | ..... | 93 | 23.3 | 217.50 | 2 | 4 |
| BINGHAMTON | 34,514 | 59 | 20.40 | 30 | 50.8 | 440.64 | 1 | 1 |
| *Owego* | 6,000 | 7 | 14.00 | 0 | .... | ..... | .... | .... |
| Candor | 3,525 | 6 | 20.40 | 1 | 16.7 | ..... | .... | .... |
| *Waverly* | 4,123 | 5 | 14.30 | 1 | 20.0 | 200.00 | .... | .... |
| ELMIRA | 30,000 | 52 | 20.80 | 18 | 35.3 | 211.54 | 1 | .... |
| Horseheads | 3,319 | 4 | 14.44 | 0 | .... | ..... | .... | .... |

FOR JULY.—(*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | 1 | ... | 1 | ... | ... | 1 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | 1 | ... | ... | ... | 1 | 3 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | 2 | 3 | ... | ... | ... | 2 | ... | 1 | 1 | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | 4 | ... | ... | ... | ... | 2 | ... | 2 | ... | ... | ... | ... |
| 2 | ... | 1 | 1 | 1 | 2 | 5 | 27 | 18 | 27 | 3 | 21 | 18 | 34 | 37 | 8 | 32 | 31 | 21 |
| ... | ... | 2 | 2 | ... | 2 | 12 | 17 | 13 | 44 | 3 | 20 | 19 | 29 | 34 | 10 | 16 | 37 | 26 |
| ... | ... | ... | ... | ... | 1 | 2 | ... | 2 | 2 | ... | 1 | ... | 1 | 2 | ... | 3 | 4 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 2 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 7 | 2 | 4 | ... | 1 | 2 | 1 | 2 | ... | 1 | ... | 6 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 2 | 1 | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 2 | 1 | 3 | 1 | ... | ... | 1 | 1 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | 1 | ... | 1 | 2 | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | 1 | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | ... |
| ... | ... | 2 | 2 | ... | 1 | 7 | 4 | 5 | 26 | 2 | 15 | 13 | 20 | 21 | 8 | 9 | 22 | 10 |
| 1 | ... | 5 | 1 | 1 | 1 | 7 | 43 | 24 | 44 | 3 | 50 | 17 | 47 | 53 | 20 | 30 | 31 | 35 |
| ... | ... | 3 | ... | ... | ... | 2 | 9 | ... | 5 | ... | 1 | 1 | 4 | 5 | 1 | 3 | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... | 1 | 1 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 6 | 2 | 2 | ... | ... | ... | 1 | 1 | ... | 2 | 1 | 4 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 1 | ... | 1 | ... | 1 | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 4 | 2 | ... | 1 | 2 | 1 | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | 3 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | 1 | 1 | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 5 | 12 | ... | 20 | 2 | 11 | 17 | 2 | 1 | 6 | 3 |
| ... | ... | ... | ... | ... | ... | ... | 2 | 2 | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... | 2 | 4 | ... | ... | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 | ... | ... | 3 | ... |
| ... | ... | ... | ... | ... | ... | ... | 4 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 6 |
| ... | ... | ... | ... | ... | ... | 1 | 4 | 2 | 4 | 1 | 5 | 2 | 7 | 3 | 1 | ... | 1 | 1 |
| 1 | ... | 2 | 1 | 1 | 1 | 2 | 10 | 4 | 13 | 2 | 11 | 7 | 19 | 17 | 13 | 16 | 12 | 13 |
| 1 | ... | 5 | 5 | ... | 2 | 23 | 45 | 26 | 31 | 2 | 40 | 24 | 31 | 52 | 13 | 31 | 33 | 20 |
| ... | ... | ... | 3 | ... | 1 | 2 | 18 | 2 | 5 | ... | 4 | 5 | 1 | 8 | 2 | 3 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 1 | 1 | ... | 2 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 2 | ... | 1 | 1 | ... | ... | ... | 1 |
| ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | 2 | ... | 1 | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | 1 | 1 | 7 | 5 | 7 | 1 | 5 | 3 | 4 | 6 | 3 | 4 | ... | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 2 | ... | ... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| SOUTHERN TIER DIST.—(*Cont'd*). | | | | | | | | |
| HORNELLSVILLE | 11,898 | 18 | 18.18 | 4 | 22.2 | 277.77 | ... | — |
| *Bath* | 3,261 | 5 | 18.40 | 2 | 40.0 | 400.00 | ... | ... |
| CORNING | 10,[illegible]25 | 7 | ..... | 3 | 42.8 | 428.50 | ... | ... |
| Wellsville | 5,[illegible]92 | 2 | ..... | 0 | ... | ..... | ... | ... |
| OLEAN | 7,[illegible]68 | 16 | 26.00 | 5 | 31.2 | 187.50 | ... | ... |
| *Salamanca* | 3,700 | 2 | 7.50 | 0 | ... | ..... | ... | ... |
| JAMESTOWN | 18,627 | 36 | 23.18 | 10 | 27.7 | 472.22 | ... | ... |
| *Westfield* | 3,000 | 2 | 8.00 | 0 | ... | ..... | ... | ... |
| *Fredonia* | 3,400 | 4 | 14.12 | 1 | 25.0 | 250.00 | ... | ... |
| Rest of District | .... ... | 171 | ..... | 18 | 10.6 | 105.10 | ... | 2 |
| EAST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ..... | 418 | ..... | 117 | 28.1 | 238.10 | 2 | 4 |
| SYRACUSE | 91,944 | 168 | 21.92 | 82 | 48.8 | 381.40 | 1 | 1 |
| *Baldwinsville* | 3,040 | 1 | 6.60 | 1 | ... | ..... | ... | ... |
| De Witt | 5,[illegible]52 | 8 | 18.48 | 1 | 12.5 | 125.00 | ... | 1 |
| *Cortland* | 8,500 | 8 | 12.00 | 0 | .... | ..... | ... | ... |
| *Homer* | 3,000 | 2 | 8.00 | 0 | .... | 500.00 | ... | ... |
| *Oneida* | 6,083 | 3 | ..... | 0 | .... | ..... | ... | ... |
| Hamilton | 4,110 | 6 | 18.00 | 1 | 16.7 | 166.67 | ... | ... |
| Brookfield | 3,235 | 3 | 11.00 | 0 | .... | ..... | ... | ... |
| *Norwich* | 5,212 | 7 | 16.17 | 1 | 14.3 | ..... | ... | ... |
| *Oneonta* | 6,776 | 7 | 13.39 | 1 | 14.3 | 142.85 | ... | ... |
| Worcester | 2,670 | 3 | 13.50 | 0 | ... | ..... | ... | ... |
| *Cooperstown* | 3,000 | 4 | 16.00 | 1 | 25.0 | 250.00 | ... | ... |
| Walton | 4,811 | 7 | 20.85 | 1 | 142.85 | 428.70 | ... | 1 |
| Liberty | 3,471 | 4 | 13.83 | 0 | ... | ..... | ... | ... |
| Rest of District | ... ... | 187 | ..... | 28 | 15.0 | 128.00 | 1 | 1 |
| WEST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ... ... | 246 | ..... | 27 | 11.0 | 84.40 | ... | 4 |
| AUBURN | 24,737 | 35 | 17.00 | 7 | 20.0 | 85.71 | ... | ... |
| ITHACA | 13,460 | 12 | ..... | 1 | 8.4 | 84.17 | ... | 1 |
| Hector | 4,832 | 4 | 16.00 | 1 | 25.0 | 250.00 | ... | ... |
| *Waterloo* | 4,350 | 5 | 13.80 | 0 | ... | ..... | ... | ... |
| *Seneca Falls* | 6,116 | 8 | 16.00 | 2 | 25.0 | ..... | ... | ... |
| *Geneva* | 7,557 | ..... | ... | ... | ... | ..... | ... | ... |
| *Canandaigua* | 5,868 | 2 | ... | 1 | 50.0 | ..... | ... | ... |
| Manchester | 4,181 | 4 | 12.00 | 0 | ... | ..... | ... | ... |
| Phelps | 5,150 | 4 | 9.52 | 1 | 25.0 | ..... | ... | ... |
| *Penn Yan* | 4,254 | 5 | 14.10 | 2 | 40.0 | 600.00 | ... | 1 |
| *Batavia* | 7,221 | 7 | 12.00 | 2 | 28.5 | ..... | ... | ... |
| *Dansville* | 3,758 | 2 | ... | 0 | .... | ..... | ... | ... |
| *Le Roy* | 3,000 | ..... | ..... | .... | .... | ..... | ... | ... |
| Warsaw | 4,700 | 9 | 22.90 | 0 | ... | 111.11 | ... | ... |
| Rest of District | ..... ... | 149 | ..... | 10 | 7.3 | 80.00 | ... | 1 |
| LAKE ONTARIO & WEST. DIST.: | | | | | | | | |
| Totals | ..... | 1,215 | ..... | 602 | 49.5 | 333.10 | 4 | 18 |
| BUFFALO | 300,000 | 666 | 26.64 | 428 | 64.2 | 429.43 | 2 | 8 |
| TONAWANDA | 7,145 | 4 | ..... | 4 | .... | ..... | ... | ... |
| Amherst | 5,960 | 1 | ..... | 0 | ... | ..... | ... | ... |
| *North Tonawanda* | 4,800 | 13 | 32.50 | 8 | 61.5 | 307.50 | ... | ... |
| LOCKPORT | 16,088 | 16 | 12.00 | 3 | 18.7 | 125.00 | ... | ... |
| NIAGARA FALLS | 5,502 | 16 | 34.88 | 4 | 25.0 | 125.00 | ... | 1 |
| *Medina* | 4,500 | 5 | 13.35 | 0 | .... | ..... | ... | ... |
| *Albion* | 4,536 | 4 | 11.00 | 1 | 25.0 | ..... | ... | ... |
| *Brockport* | 3,742 | 3 | 10.00 | 1 | 33.3 | ..... | ... | ... |
| ROCHESTER | 150,000 | 254 | 18.72 | 115 | 49.1 | 329.06 | ... | 4 |
| Palmyra | 4,173 | 12 | 34.44 | 2 | 16.7 | ..... | ... | ... |

FOR JULY — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | ... | ... | 1 | 4 | 1 | 2 | ... | ... | 1 | 2 | 3 | 2 | ... | 2 | .... |
| .. | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .. | .... | .... | .... | 1 | .... | 1 | 2 | .... |
| ... | .... | .... | 2 | .... | .... | 1 | .... | 1 | .... | .. | 1 | 1 | .... | .... | .... | .... | .. | .... |
| ... | .... | 3 | .... | .... | .... | .... | .... | 1 | 1 | .. | 1 | .... | .... | .... | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 2 | 4 | 1 | 1 | 1 | 1 |
| 1 | .... | .... | .... | .... | .... | 14 | 2 | 1 | 3 | .... | 2 | 1 | 1 | .... | .... | 1 | .... | .. |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 3 | 1 | 4 | 2 | 1 |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... |
| ... | .... | 1 | .... | .... | .... | 4 | 10 | 14 | 10 | 1 | 20 | 11 | 15 | 22 | 9 | 15 | 24 | 12 |
| 2 | .... | .... | 2 | 1 | 7 | 17 | 64 | 19 | 46 | 2 | 25 | 18 | 44 | 49 | 10 | 30 | 34 | 42 |
| ... | .... | .... | 1 | .... | 3 | 8 | 50 | 6 | 17 | .... | 12 | 3 | 10 | 15 | 1 | 12 | 12 | 16 |
| ... | .. | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .. | 1 | 2 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .. | .. | 1 | .... | 2 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... |
| ... | .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .. | .... | .... | .... | .... | .... | 2 | 8 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... | .... |
| .. | .... | .. | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 1 | 1 | .... | 1 | 1 | 1 |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | .... | .... | .... | 2 | 1 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | ... |
| 1 | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 1 |
| 1 | .... | .... | 1 | 1 | 3 | 6 | 12 | 10 | 20 | 2 | 11 | 14 | 2<br>23 | 1<br>24 | 9 | 1<br>15 | 15 | 18 |
| ... | .... | 3 | 2 | .... | .... | 6 | 6 | 5 | 24 | 2 | 30 | 15 | 33 | 37 | 11 | 18 | 28 | 22 |
| ... | .... | .... | .... | .... | .... | 2 | 1 | 1 | 4 | .. | 5 | 2 | 5 | 6 | 1 | 2 | 1 | 5 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .. | 2 | 3 | 2 | 1 | .. | .... | 2 | .. |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .. | 1 | .... | .. | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .... | .... | .... | .. | 1 | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .. | 1 | .. | .... | 1 | 1 | .. | .. | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... |
| . | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| ... | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | 1 |
| ... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | 1 | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | .... | 1 | 1 | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | 1 | 2 | .... | 2 | 1 | 1 |
| ... | .... | 3 | 1 | .. | .... | 3 | 3 | 1 | 16 | .... | 21 | 9 | 18 | 24 | 8 | 11 | 22 | 7 |
| 4 | .... | 8 | 4 | 1 | 3 | 21 | 340 | 42 | 99 | 6 | 149 | 26 | 62 | 138 | 39 | 82 | 59 | 119 |
| ... | ... | 8 | 4 | .... | 3 | 16 | 245 | 22 | 36 | 3 | 101 | 14 | 22 | 65 | 16 | 34 | 12 | 55 |
| ... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| ... | .... | .. | .... | .... | .... | .... | 4 | 1 | .... | .... | 1 | .... | 1 | .... | .... | .... | 1 | 5 |
| 1 | .... | .. | .... | .... | .... | .... | 1 | 2 | 2 | .... | 1 | .... | 3 | 4 | .... | .... | .... | 2 |
| ... | .... | .... | .... | .. | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | 4 | .. | 4 | 1 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | 1 | 1 | .... | .... | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 |
| 1 | .... | .... | .... | .... | .... | 5 | 67 | 14 | 24 | 1 | 17 | 4 | 10 | 31 | 7 | 16 | 13 | 10 |
| ... | .... | .. | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .. | 2 | 2 | .. | .... | 4 | 2 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONT. & WEST. DIS.—(*C'f'd*) | | | | | | | | |
| *Newark* | 3,000 | 3 | 12.00 | 0 | .... | ..... | .... | .... |
| Lyons | 6,127 | 3 | ..... | 1 | 33.3 | ..... | .... | .... |
| *Clyde* | 3,000 | 8 | 32.00 | 0 | .... | ..... | .... | .... |
| Oswego | 21,966 | 29 | 15.80 | 8 | 27.5 | 137.93 | .... | .... |
| *Fulton* | 4,214 | 7 | 19.95 | 2 | 28.5 | 285.70 | .... | .... |
| Richland | 3,637 | 5 | 14.92 | 0 | .... | 200.00 | .... | .... |
| Rest of District | ..... | 186 | ..... | 25 | 13.5 | 107.50 | 2 | 3 |
| Totals for the State | ..... | 12,332 | ..... | 6,231 | 50.5 | 324.25 | 86 | 87 |
| Av'ge for July for past 8 years | ..... | 10,985 | ..... | 5,663 | 51.5 | 358.45 | 49 | 95 |
| Totals for June, 1893 | ..... | 8,728 | ..... | 2,885 | 33.0 | 162.88 | 96 | 83 |

REMARKS.—July is invariably the month of largest mortality in this State, 10.06 per cent of the month of 396, having risen from 291 in June, which was the lowest rate for the year; in July, 1893, deaths than in June (873 to 944). The deaths from Diarrhœal diseases have increased since last mortality; this is less than it was last year and less than the average, which is about 28 per cent. under the age of five years, the average for July being 51.5. In the large cities of New York, but 7.3 per cent of the deaths were from this cause. Scarlet Fever and Measles continue to decrease There were 16 deaths from Small-pox, of which 3 occurred in Yonkers and 11 in the hospital for Newton's Corners, in Hamilton county, nor in Sing Sing. There is a large increase over last in July. The reported deaths give a death-rate for the month of 22.75, against 17.50 in June. The in June, and the rain fall was less than the average throughout the State by nearly 2 inches, the southwest.

FOR JULY — (*Concluded*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | .... | .... | . | .... | .. | ..... | ..... | 1 | .. | ..... | ... | 1 | ..... | 1 | ... | .. | .... |
| ... | .... | .... | .... | .... | .... | .... | ... .. | 1 | ..... | .... | 1 | . | ... .. | ..... | ... | ... | ... | 1 |
| ... | .... | .... | .. | .... | .... | .... | ... .. | ..... | 1 | .... | ..... | .... | 3 | 3 | 1 | ... | ... | .... |
| ... | .... | .... | .... | .... | .... | .... | 4 | ..... | 6 | .... | 4 | ... | 2 | 2 | 1 | 4 | 1 | 5 |
| . | .... | .... | .... | .... | .... | .. | 2 | ..... | 2 | .... | ..... | .. | 1 | 2 | .... | .. | . | ... |
| 1 | ... | .. . | .... | ... | .. | .... | ..... | ..... | 2 | ... | 1 | ... | 1 | . | ... | ... | ... | ... |
| 1 | .... | .... | .... | 1 | .. | .... | 13 | 2 | 22 | 2 | 19 | 6 | 14 | 24 | 12 | 24 | 18 | 23 |
| 45 | 16 | 79 | 75 | 13 | 92 | 379 | 3,206 | 746 | 1,073 | 72 | 1,219 | 552 | 726 | 1,252 | 300 | 598 | 383 | 1333 |
| 60 | 3 | 90 | 90 | 16 | 97 | 337 | 3,106 | 611 | 908 | 76 | 869 | 437 | 525 | 1,097 | 219 | 494 | 469 | 1250 |
| 40 | 10 | 154 | 99 | 24 | 77 | 359 | 478 | 1,010 | 1,065 | 67 | 612 | 503 | 679 | 1,108 | 241 | 564 | 384 | 1073 |

deaths of the past eight years have occurred in July. There was an average daily mortality this it was, however, 437. From Zymotic diseases, with the exception of Diarrhœa, there were fewer month from 478, which was a small number for June, to 3,200 which is 26 per cent of the total The infant mortality is correspondingly diminished, 50.5 per cent of the deaths having occurred Brooklyn and Buffalo 40 per cent of the deaths were from Diarrhœa; in the rural parts of the State in all parts of the State. Diphtheria is slightly more prevalent than is usual for this season. contagious diseases at Flatbush; no spread of the disease is reported from a case developing at month in deaths reported from diseases of the digestive and nervous systems, which is customary temperature for the month has not varied from the normal of 71°, there were more fair days than in mean humidity being 69 per cent (73 per cent in June). The prevailing wind has been generally

MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths and causes in the following*

Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Roman

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | .... ..... | 6,613 | .... | 3,190 | 48.0 | 286.59 | 20 | 76 |
| NEW YORK CITY | 1,860,803 | 3,582 | 22.54 | 1,686 | 47.3 | 266.78 | 25 | 82 |
| BROOKLYN | 978,394 | 1,955 | 23.23 | 1,043 | 53.3 | 318.55 | 9 | 30 |
| Gravesend | 8,418 | 33 | 37.18 | 21 | 63.3 | 606.06 | ... | ... |
| New Utrecht | 9,129 | 29 | 38.10 | 16 | 55.2 | 244.80 | 1 | ... |
| LONG ISLAND CITY | 35,745 | 100 | 33.50 | 48 | 48.0 | 410.00 | 2 | 4 |
| Newtown | 19,776 | 63 | 20.00 | 25 | 40.0 | 166.60 | ... | ... |
| Oyster Bay | 14,887 | 31 | 24.95 | 17 | 54.8 | 265.00 | .... | .... |
| Hempstead | 23,991 | 49 | 24.75 | 25 | 50.5 | 422.00 | .... | .... |
| North Hempstead | 8,726 | 15 | 20.70 | 8 | 53.3 | 200.00 | .... | .... |
| Jamaica | 17,654 | 48 | 32.64 | 28 | 57.0 | 333.33 | .... | .... |
| Flushing | 20,816 | 41 | 23.00 | 17 | 42.5 | 250.00 | .... | .... |
| Southold | 7,671 | 16 | 24.96 | 5 | 31.3 | 312.50 | .... | .... |
| *Sag Harbor* | 3,000 | 7 | 28.00 | 6 | 85.7 | 571.43 | .... | .... |
| Huntington | 8,253 | 11 | .... | 3 | 27.2 | 90.90 | .... | .... |
| *New Brighton* | 16,423 | 28 | 20.46 | 15 | 53.5 | 285.30 | .... | .... |
| *Edgewater* | 14,265 | 24 | 20.16 | 8 | 33.3 | 250.00 | .... | .... |
| *Port Richmond* | 6,390 | 13 | 24.37 | 6 | 46.1 | 230.50 | .... | .... |
| Westfield | 8,648 | 18 | 25.12 | 13 | 72.2 | 444.44 | .... | .... |
| YONKERS | 34,000 | 60 | 21.18 | 22 | 36.7 | 400.00 | .... | 3 |
| Westchester | 8,326 | 22 | 31.68 | 9 | 40.9 | 227.27 | .... | .... |
| Greenburgh | 11,630 | 19 | 20.90 | 10 | 52.6 | 473.68 | .... | .... |
| MOUNT VERNON | 15,513 | 27 | 20.90 | 16 | 59.2 | 366.66 | .... | .... |
| *Port Chester* | 5,274 | 20 | ..... | 10 | 50.0 | 400.00 | .... | .... |
| *Sing Sing* | 9,352 | 16 | 20.53 | 7 | 43.7 | 250.00 | .... | 1 |
| *New Rochelle* | 8,217 | 13 | 18.85 | 7 | 54.3 | 353.00 | 1 | .... |
| *Peekskill* | 9,676 | 22 | 27.28 | 6 | 27.3 | 272.73 | .... | .... |
| *White Plains* | 4,042 | 11 | 33.00 | 3 | 27.3 | 272.73 | 1 | 1 |
| Rest of District | ..... | 360 | ..... | 110 | 30.5 | 219.45 | .... | 9 |
| HUDSON VALLEY DISTRICT: Totals | ..... | 1,003 | ..... | 418 | 41.8 | 285.00 | 7 | 21 |
| ALBANY | 98,000 | 162 | 19.76 | 44 | 27.0 | 179.00 | 1 | 5 |
| COHOES | 23,234 | 39 | 20.16 | 25 | 64.1 | 435.85 | .... | .... |
| TROY | 64,986 | 115 | 21.27 | 45 | 39.0 | 330.43 | 1 | 6 |
| *West Troy* | 12,967 | 27 | 24.82 | 9 | 33.3 | 259.25 | .... | .... |
| *Green Island* | 4,463 | 14 | 37.66 | 5 | 35.8 | 500.00 | .... | 1 |
| *Lansingburgh* | 10,550 | 19 | 21.60 | 7 | 39.9 | 315.75 | .... | .... |
| *Hoosick Falls* | 7,014 | 12 | 20.52 | 6 | 50.0 | 500.00 | .... | .... |
| *Greenbush* | 7,462 | 9 | 14.80 | 5 | 55.5 | 444.44 | 1 | .... |
| COXSACKIE | 3,894 | 5 | 15.90 | 0 | ... | ..... | .... | .... |
| *Catskill* | 4,920 | 7 | 17.01 | 4 | 57.1 | 285.70 | .... | .... |
| HUDSON | 9,633 | 14 | 17.36 | 5 | 35.7 | 142.85 | .... | .... |
| KINGSTON | 21,500 | 42 | 23.52 | 14 | 33.3 | 287.10 | .... | .... |
| *Ellenville* | 3,000 | 4 | 16.00 | 1 | 25.0 | 50.00 | .... | .... |
| Marbletown | 3,689 | 3 | 10.00 | 2 | 66.6 | 666.66 | .... | .... |
| Rosendale | 6,125 | 17 | 33.32 | 11 | 64.7 | 470.85 | 1 | .... |
| Esopus | 5,035 | 10 | 24.00 | 4 | 40.0 | 600.00 | .... | .... |
| *Saugerties* | 4,237 | 9 | 25.45 | 3 | 33.3 | 111.11 | .... | .... |
| POUGHKEEPSIE | 23,200 | 49 | 25.33 | 20 | 40.8 | 285.71 | .... | 1 |
| *Fishkill* | 3,617 | 7 | 23.20 | 3 | 42.8 | 428.50 | .... | .... |
| *Wappinger Falls* | 3,718 | 6 | 19.32 | 3 | 50.0 | 500.00 | .... | .... |
| NEWBURGH | 24,536 | 54 | 26.46 | 21 | 38.8 | 277.77 | 1 | 4 |
| *Port Jervis* | 9,327 | 20 | 25.00 | 9 | 45.0 | 450.00 | .... | .... |
| MIDDLETOWN | 11,612 | 30 | 20.20 | 6 | 30.0 | 300.00 | .... | .... |
| Warwick | 6,000 | 9 | 18.00 | 4 | 44.4 | 111.11 | .... | .... |

## YORK STATE BOARD OF HEALTH.

*districts, cities and towns during August*, 1893.

type. For boundaries of *Sanitary Districts* see Annual Summary ]

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 11 | 32 | 42 | 6 | 87 | 221 | 1,334 | 489 | 681 | 45 | 621 | 350 | 345 | 651 | 157 | 345 | 124 | 913 |
| 22 | 2 | 19 | 35 | 2 | 44 | 146 | 620 | 299 | 418 | 33 | 354 | 210 | 184 | 303 | 97 | 180 | 45 | 489 |
| 15 | ... | 5 | 6 | 2 | 24 | 51 | 475 | 154 | 168 | 6 | 202 | 89 | 79 | 228 | 32 | 68 | 19 | 217 |
| ... | ... | ... | ... | ... | ... | 1 | 19 | ... | ... | ... | 1 | ... | ... | 8 | ... | 2 | ... | 2 |
| ... | ... | ... | ... | ... | 1 | ... | 8 | ... | 2 | ... | 3 | ... | 2 | 3 | ... | 6 | ... | 3 |
| 2 | ... | ... | ... | ... | 4 | 9 | 20 | 5 | 8 | 1 | 5 | 5 | 2 | 7 | 3 | 7 | ... | 9 |
| ... | ... | 2 | ... | ... | ... | 1 | 7 | ... | 3 | ... | 6 | 1 | 2 | 5 | 1 | 20 | 4 | 11 |
| ... | ... | 1 | ... | ... | ... | ... | 7 | ... | 1 | ... | 4 | ... | 6 | 3 | 1 | ... | 1 | 1 |
| ... | ... | ... | ... | ... | 3 | 1 | 17 | 2 | 1 | ... | 1 | 2 | 4 | 2 | 1 | 2 | 7 | 6 |
| 1 | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... | 5 | ... | ... | 2 | 1 | 1 | ... | 2 |
| ... | 1 | ... | ... | ... | 2 | ... | 13 | 2 | 3 | ... | 2 | 4 | 3 | 5 | 1 | 4 | 2 | 6 |
| 1 | ... | ... | ... | ... | 1 | 2 | 8 | 2 | 7 | ... | 2 | ... | 2 | 4 | 1 | 5 | 3 | 4 |
| ... | ... | ... | ... | ... | ... | ... | 4 | 2 | ... | 1 | ... | 2 | 2 | ... | ... | 1 | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | 2 | 1 | 1 | ... | ... | ... | 2 |
| ... | ... | ... | ... | ... | ... | 1 | 7 | 4 | 4 | ... | 1 | ... | ... | 3 | 1 | 2 | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | 6 | ... | 1 | ... | 3 | 4 | ... | 4 | 2 | 2 | 2 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | 2 | ... | ... | 1 | 1 | ... | 1 | 2 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 8 | ... | 1 | ... | 1 | 1 | ... | 4 | ... | ... | 3 | ... |
| ... | 2 | 1 | ... | ... | ... | 3 | 15 | 4 | 9 | ... | 4 | 4 | 3 | 7 | ... | 3 | ... | 2 |
| ... | ... | ... | ... | ... | ... | 1 | 4 | 1 | 3 | ... | 2 | 2 | ... | 2 | 1 | 2 | 1 | 3 |
| 1 | ... | ... | ... | ... | ... | 2 | 6 | ... | ... | ... | ... | 2 | 3 | 2 | ... | 1 | 1 | 1 |
| ... | ... | 1 | ... | ... | ... | ... | 10 | 1 | 2 | ... | 4 | 2 | 1 | 1 | ... | 2 | 1 | 1 |
| ... | ... | ... | ... | ... | 1 | ... | 7 | 1 | ... | 1 | ... | ... | ... | 2 | ... | 2 | 2 | 4 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | 1 | ... | 2 | ... | 1 | 1 | 1 | 2 | ... | 4 |
| ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | 1 | 1 | 1 | 2 | ... | ... | ... | 3 |
| ... | ... | ... | ... | ... | ... | ... | 6 | ... | 3 | ... | 2 | 2 | 3 | ... | ... | 2 | 3 | 1 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | 2 | 1 | 1 | 1 | 1 |
| 2 | 6 | 3 | 1 | 2 | 7 | 2 | 50 | 12 | 42 | 1 | 15 | 16 | 38 | 50 | 12 | 27 | 23 | 45 |
| 10 | .... | 9 | .... | 1 | 10 | 21 | 204 | 50 | 95 | 9 | 66 | 45 | 75 | 123 | 26 | 71 | 69 | 89 |
| ... | ... | ... | ... | ... | 1 | 3 | 18 | 14 | 16 | 2 | 11 | 8 | 17 | 24 | 2 | 14 | 4 | 21 |
| ... | ... | 4 | ... | ... | ... | ... | 13 | ... | 1 | ... | 2 | 3 | ... | 7 | 1 | 2 | 2 | 4 |
| ... | ... | ... | ... | ... | 3 | ... | 28 | 9 | 11 | 1 | 3 | 7 | 6 | 19 | 6 | 5 | 1 | 9 |
| ... | ... | ... | ... | ... | ... | ... | 7 | 1 | 2 | ... | 2 | 3 | ... | 6 | 1 | 1 | 3 | 1 |
| ... | ... | ... | ... | ... | 1 | ... | 5 | ... | 2 | ... | 1 | 2 | ... | 1 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 6 | 1 | 2 | 1 | 1 | ... | 1 | 2 | ... | 2 | 3 | ... |
| ... | ... | ... | ... | ... | ... | ... | 6 | 1 | 3 | ... | ... | ... | 2 | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 1 | 2 | 1 | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 2 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 3 | ... | 3 | 3 | 1 | 1 | ... | 1 |
| 2 | ... | ... | ... | 1 | ... | 1 | 8 | 2 | 2 | 1 | 7 | ... | 7 | 3 | 1 | 3 | 4 | ... |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| 1 | ... | ... | ... | ... | ... | ... | 6 | 3 | 1 | ... | 2 | ... | ... | ... | ... | 2 | ... | 1 |
| 2 | ... | ... | ... | ... | ... | ... | 4 | 1 | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | 1 | 1 | 1 | 1 | ... | 1 | 1 | 1 |
| 1 | ... | ... | ... | ... | ... | 3 | 9 | 1 | 5 | 1 | 2 | 2 | 3 | 8 | 1 | ... | 5 | 7 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | 1 | 1 |
| 1 | ... | ... | ... | ... | ... | ... | 2 | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | 2 | ... | ... | 2 | 1 | 15 | 1 | 3 | ... | 4 | 2 | 3 | 3 | ... | 7 | 2 | 4 |
| ... | ... | ... | ... | ... | ... | ... | 9 | ... | 5 | ... | 2 | 1 | ... | 1 | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 5 | ... | 3 | 1 | ... | 1 | ... | 4 | ... | 1 | 4 | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | 1 | ... | 1 | ... | 4 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| HUDSON VAL. DIST.— (*Cont'd*): | | | | | | | | |
| Goshen | 4,646 | 8 | 20.64 | 2 | 25 0 | ..... | ..... | ..... |
| Montgomery | 5,259 | 8 | 18.24 | 5 | 62.5 | 250 00 | ..... | ..... |
| Haverstraw | 7,714 | 17 | 26.50 | 10 | 58.8 | 411.80 | ..... | ..... |
| *Nyack* | 5,603 | 11 | 22.40 | 4 | 36 0 | 383.53 | ..... | ..... |
| Ramapo | 6,600 | 7 | 12.74 | 2 | 28 5 | 285.70 | ..... | ..... |
| Rest of District | ..... | 279 | ..... | 69 | 24.7 | 214.80 | 2 | 3 |
| ADIRONDACK & NOTH'N DIST.: | | | | | | | | |
| Totals | ..... | 352 | ..... | 95 | 27.2 | 256.79 | 1 | 4 |
| WATERTOWN | 16,982 | 20 | 14.12 | 10 | 50.0 | 350.00 | ..... | ..... |
| Ellisburgh | 4,223 | 3 | 9.00 | 0 | ..... | ..... | ..... | ..... |
| Cape Vincent | 3,000 | 3 | 12.00 | 0 | ..... | ..... | ..... | ..... |
| Clayton | 4,250 | 4 | 11.00 | 0 | ..... | ..... | ..... | ..... |
| OGDENSBURGH | 11,959 | 16 | 16.10 | 10 | 62.5 | 612.50 | ..... | ..... |
| Gouverneur | 5,921 | 12 | 24.32 | 7 | 58.3 | 416.66 | ..... | ..... |
| *Potsdam* | 4,000 | 9 | ..... | ..... | ..... | ..... | ..... | ..... |
| Canton | 6,013 | 3 | 6.00 | 0 | ..... | ..... | ..... | ..... |
| *Malone* | 5,000 | 6 | 14.40 | 2 | 33.3 | 166.67 | ..... | ..... |
| *Plattsburgh* | 7,010 | 19 | 18.81 | 9 | 45.4 | 454.54 | ..... | ..... |
| *Glens Falls* | 9,509 | 24 | 30.24 | 13 | 54.2 | 417.00 | ..... | 1 |
| *Whitehall* | 4,434 | 1 | ..... | 1 | ..... | ..... | ..... | ..... |
| Fort Edward | 4,382 | 9 | 24.57 | 1 | 11.1 | 222.22 | ..... | ..... |
| Kingsbury | 5,112 | 6 | 14.40 | 2 | 33.3 | 500.00 | ..... | ..... |
| Granville | 5,281 | 3 | 6.81 | 0 | ..... | 333.33 | ..... | ..... |
| Salem | 3,167 | 3 | 11.00 | 0 | ..... | ..... | ..... | ..... |
| Greenwich | 4,431 | 9 | 24.39 | 3 | 33.3 | 111.11 | ..... | ..... |
| Rest of District | ..... | 202 | ..... | 37 | 13.0 | 210.00 | 1 | 1 |
| MOHAWK VALLEY DISTRICT: | | | | | | | | |
| Totals | ..... | 535 | ..... | 192 | 35.8 | 268.80 | 1 | 1 |
| SCHENECTADY | 22,858 | 35 | 18.37 | 18 | 51.4 | 228.60 | ..... | 2 |
| Cobleskill | 3,436 | 5 | 17.50 | 2 | 40.0 | 400.00 | ..... | ..... |
| AMSTERDAM | 18,542 | 33 | 20.00 | 21 | 62 0 | 625.00 | ..... | ..... |
| *Fort Plain* | 3,000 | 4 | 16.00 | 2 | 50.0 | 250.00 | ..... | ..... |
| *Johnstown* | 7,768 | 19 | 29.26 | 10 | 52 6 | 315.75 | ..... | ..... |
| GLOVERSVILLE | 14,694 | 25 | 20.40 | 12 | 48.0 | 360.00 | ..... | ..... |
| *Little Falls* | 8,783 | 8 | 11.50 | 3 | 37.5 | 375.00 | ..... | ..... |
| *Herkimer* | 3,000 | 6 | 24.00 | 0 | ..... | 166.67 | ..... | 1 |
| *Ilion* | 4,057 | 9 | 26.50 | 5 | 55.5 | 333.33 | ..... | ..... |
| UTICA | 46,608 | 99 | 25.54 | 41 | 41.4 | 262.62 | ..... | ..... |
| Whitestown | 5,225 | 7 | 16.10 | 1 | 14.3 | 142.85 | ..... | ..... |
| ROME | 13,638 | 22 | 19.36 | 10 | 45.5 | 318.18 | ..... | ..... |
| Boonville | 3,512 | 3 | 11.00 | 0 | ..... | ..... | ..... | ..... |
| Camden | 3,675 | 7 | 22.85 | 2 | 28.5 | 142.85 | ..... | ..... |
| Waterford | 5,522 | 5 | 10.00 | 4 | 80.0 | 600.00 | ..... | ..... |
| *Ballston Spa* | 3,527 | 2 | 6.80 | 0 | ..... | ..... | ..... | ..... |
| *Saratoga Springs* | 12,000 | 31 | 31.00 | 9 | 29.0 | 258.00 | ..... | 1 |
| Rest of District | ..... | 215 | ..... | 52 | 24.2 | 209.30 | 1 | 1 |
| SOUTHERN TIER DISTRICT: | | | | | | | | |
| Totals | ..... | 395 | ..... | 111 | 27.5 | 300.00 | ..... | 1 |
| BINGHAMTON | 34,514 | 47 | 16.34 | 16 | 34.0 | 361 65 | ..... | 1 |
| *Owego* | 6,000 | 8 | 16 00 | 2 | 25.0 | 250 00 | ..... | ..... |
| Candor | 3,525 | 7 | 23.80 | 2 | 28.5 | 285.70 | ..... | ..... |
| *Waverly* | 4,123 | 6 | 17.16 | 4 | 66 6 | 666 66 | ..... | ..... |
| ELMIRA | 30,000 | 52 | 21.20 | 19 | 35 8 | 396.22 | ..... | 1 |
| Horseheads | 3,319 | 5 | 18 00 | 2 | 40.0 | 200.00 | ..... | ..... |
| HORNELLSVILLE | 11,898 | 13 | 13 50 | 8 | 61.5 | 307 50 | ..... | ..... |
| *Bath* | 3,261 | 7 | 25.75 | 4 | 57.0 | 571.42 | ..... | ..... |

FOR AUGUST — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Disease of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | .... | .. | ... | ... | .... | . | .... | 3 | .... | 1 | 1 | 1 | 2 | .. | .... | .. | . |
| .. | ... | .... | .... | .... | ... | 5 | 2 | .... | 1 | .... | .... | .... | .... | .... | 2 | .... | 1 | 2 |
| ... | .... | .... | .... | .... | .... | .. | 2 | .... | .... | .... | 3 | .... | .... | 1 | .... | 2 | 1 | 3 |
| ... | .... | .... | .... | .... | .... | 1 | 3 | .... | 2 | .... | .. | 1 | .... | 1 | .... | .... | 2 | 1 |
| .. | .... | .... | .... | .... | .... | 1 | 1 | 1 | 1 | .... | .. | 1 | 1 | .... | .... | 1 | .... | .... |
| 3 | .. | 3 | .... | .... | 3 | 3 | 41 | 13 | 24 | 2 | 17 | 12 | 28 | 33 | 11 | 23 | 32 | 24 |
| 2 | .... | 5 | .. | . | 5 | 10 | 65 | 10 | 37 | .... | 34 | 9 | 31 | 41 | 9 | 27 | 32 | 29 |
| ... | .... | ... | .... | .. | .... | 1 | 6 | 1 | 2 | ... | ... | ... | 4 | 1 | .... | 1 | 3 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | 1 | ... | .. | 1 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .. | .... | .... | .... | .. | .... | .... | ... | .... | .... | .... | 3 | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .. | .... | 1 | .... | 1 | .... | 1 | .... |
| .. | ... | 1 | .... | .... | 1 | .... | 7 | .... | .... | .... | 1 | 2 | .... | 1 | .... | .... | 1 | 2 |
| ... | ... | 1 | .... | .... | .. | .... | 4 | .... | .... | .. | 2 | .... | .... | 1 | .... | 2 | .... | 2 |
| ... | .... | .... | .... | .... | .. | .... | 3 | 1 | .... | .. | .... | .... | .... | 3 | .... | .... | 1 | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 |
| .. | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | 2 |
| . | .... | .... | .... | .... | .... | 1 | 7 | .... | 2 | .... | 1 | .... | 2 | 3 | 2 | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | 1 | 8 | 2 | 2 | .... | .... | .... | 2 | 1 | 1 | 1 | 2 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | 1 | 1 | .... | 2 | .. | 1 | .... | 1 | .... | .... | 1 | 1 | 1 |
| ... | .... | 3 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | 1 | .... |
| 2 | .... | .... | .... | .... | 4 | 6 | 26 | 6 | 25 | ... | 26 | 5 | 18 | 23 | 5 | 17 | 21 | 14 |
| 1 | .... | .... | .. | 1 | 3 | 9 | 122 | 19 | 45 | 3 | 44 | 30 | 46 | 67 | 20 | 26 | 42 | 49 |
| ... | .... | .... | .... | .... | .... | 1 | 5 | .. | 3 | .... | 1 | 2 | 2 | 2 | .... | .... | 3 | 7 |
| ... | .... | .... | .... | .... | .... | .... | 2 | .... | 1 | .... | .... | .... | .... | 2 | .... | .... | .... | .. |
| ... | .... | .... | .... | .... | 1 | 1 | 18 | .... | 5 | 1 | 2 | .... | 1 | .... | .... | .... | .... | 4 |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | 2 | 4 | 1 | 3 | .... | 1 | .... | 3 | 3 | .... | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | 9 | .... | .... | 1 | 3 | 2 | 2 | 3 | 1 | 1 | .. | 3 |
| ... | .... | .... | .... | .... | .... | .... | 3 | .. | .... | .... | 1 | 1 | .... | 1 | 1 | .... | 1 | . |
| ... | .... | .... | .... | .... | .... | .... | .. | .. | 2 | .... | 1 | .... | .... | .... | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... | 2 | .... | .... | 1 | 1 | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | 26 | 6 | 16 | .... | 6 | 10 | 10 | .... | 3 | 3 | 4 | 4 |
| ... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | 4 | .. |
| ... | .... | .... | .... | .... | .... | .. | 7 | 1 | 2 | .... | 2 | .... | .... | 2 | 1 | 1 | 3 | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 |
| 1 | .... | .... | .. | .... | .... | .... | 1 | .... | .... | .... | 3 | 1 | 2 | .... | .... | .... | .... | .. |
| ... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | 7 | 5 | 2 | .... | 1 | 3 | 3 | 2 | .... | 1 | 2 | 4 |
| ... | .... | .... | .... | 1 | 2 | 5 | 33 | 6 | 10 | 1 | 20 | 11 | 22 | 31 | 13 | 20 | 22 | 14 |
| ... | .... | 2 | .... | 2 | 7 | 28 | 79 | 10 | 23 | 3 | 31 | 21 | 32 | 38 | 13 | 22 | 36 | 42 |
| ... | ... | .. | .... | .... | 1 | 3 | 12 | 3 | 1 | 1 | 3 | 2 | 4 | 4 | 1 | 5 | 1 | 5 |
| ... | .... | .... | .... | .... | .. | 1 | 1 | .... | .... | .... | .... | 1 | .... | 3 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | 1 | . | 1 | .... | .... | .... | .... | .... | 2 | 2 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .. | .... | 4 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | 3 | 4 | 13 | 1 | 4 | .... | 5 | .... | .... | 8 | 5 | 1 | 2 | 1 |
| ... | .... | .... | .... | .... | .... | .. | 1 | 1 | 2 | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | 1 | .... | 3 | .... | .... | .... | 1 | 1 | .... | 1 | .... | 1 | 1 | .... |
| .. | .... | .... | .... | .... | 1 | .... | 3 | .. | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | 64 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| SOUTHERN TIER DIST.— (*Cont'd*): | | | | | | | | |
| CORNING | 10,025 | 21 | 25 00 | 10 | 47.6 | 619.00 | .... | .... |
| Wellsville | 5,033 | 2 | .... | 1 | 50.0 | 500.00 | .... | .... |
| OLEAN | 7,358 | 12 | 19.56 | 4 | 33.3 | 416.67 | .... | 2 |
| *Salamanca* | 3,700 | 2 | 6.50 | 1 | 50.0 | .... | .... | .... |
| JAMESTOWN | 18,627 | 26 | 16.75 | 8 | 30.7 | 576.85 | .... | .... |
| *Westfield* | 3,000 | 4 | 16.00 | 0 | .... | ..... | .... | .... |
| *Fredonia* | 3,400 | 3 | 11.00 | 0 | .... | ..... | .... | .... |
| Rest of District | .... | 179 | ..... | 30 | 16.7 | 200.00 | .... | 3 |
| EAST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ..... | 474 | .... | 158 | 33.3 | 272.18 | 3 | 9 |
| SYRACUSE | 91,944 | 152 | 19.85 | 72 | 40.8 | 375.00 | 3 | 2 |
| *Baldwinsville* | 3,040 | 2 | 8.00 | 1 | 50.0 | .... | .... | .... |
| DeWitt | 5,182 | 14 | 32.34 | 8 | 57.1 | 571.42 | .... | .... |
| *Cortland* | 8,590 | 7 | 11.00 | 1 | 14.3 | 142.85 | .... | .... |
| *Homer* | 3,000 | 4 | 16.00 | 0 | .... | 250.00 | .... | 1 |
| *Oneida* | 6,083 | 5 | 11.00 | 1 | 20.0 | 200.00 | .... | .... |
| Hamilton | 4,110 | 5 | 14.78 | 0 | .... | 200.00 | .... | .... |
| Cazenovia | 3,803 | 5 | 15.78 | 0 | .... | ..... | .... | .... |
| Brookfield | 3,235 | 9 | ..... | 4 | 44.4 | 444.44 | .... | .... |
| *Norwich* | 5,212 | 11 | 25.41 | 4 | 36.4 | 191.90 | .... | .... |
| *Oneonta* | 6,776 | 6 | 11.00 | 4 | 66.6 | 166.67 | .... | .... |
| Worcester | 2,670 | 4 | 17.00 | 1 | 25.0 | 250.00 | .... | .... |
| *Cooperstown* | 3,000 | 3 | 12.00 | 0 | .... | 333.33 | .... | 1 |
| Walton | 4,811 | 7 | 17.50 | 5 | 71.4 | 428.57 | .... | .... |
| Delhi | 3,000 | 4 | 16.00 | 0 | .... | .... | .... | .... |
| Liberty | 3,471 | 4 | 13.83 | 1 | 25.0 | 500.00 | .... | .... |
| Rest of District | ..... | 232 | .... | 48 | 20.9 | 205.00 | .... | 5 |
| WEST CENTRAL DISTRICT: | | | | | | | | |
| Totals | .... | 314 | .... | 85 | 27.0 | 275.00 | 1 | 5 |
| AUBURN | 24,737 | 44 | 21.34 | 19 | 43.1 | 481.80 | .... | .... |
| ITHACA | 13,460 | 4 | ..... | 2 | .... | .... | .... | .... |
| Hector | 4,832 | 4 | 10.00 | 0 | .... | 250.00 | .... | .... |
| *Waterloo* | 4,350 | 1 | .... | 1 | .... | ..... | .... | .... |
| *Seneca Falls* | 6,116 | 8 | 15.78 | 3 | 37.5 | 375.00 | .... | .... |
| *Geneva* | 7,557 | .... | ..... | .... | .... | .... | .... | .... |
| *Canandaigua* | 5,868 | 11 | 22.48 | 2 | 19.2 | 272.73 | .... | .... |
| Manchester | 4,181 | 6 | 17.10 | 0 | .... | .... | .... | .... |
| Phelps | 5,150 | 9 | 20.97 | 5 | 55.5 | 444.44 | .... | .... |
| *Penn Yan* | 4,254 | 10 | 28.20 | 3 | 30.0 | 300.00 | 1 | .... |
| *Batavia* | 7,221 | 7 | 12.00 | 3 | 42.8 | 285.70 | .... | .... |
| *Dansville* | 3,758 | 6 | 19.10 | 1 | 16.7 | 333.33 | .... | .... |
| *Le Roy* | 3,000 | 6 | ..... | 0 | .... | ..... | .... | .... |
| Warsaw | 4,700 | 3 | 8.00 | 3 | .... | .... | .... | .... |
| Rest of District | ..... | 195 | ..... | 43 | 22.0 | 200.00 | .... | 5 |
| LAKE ONTARIO & WEST. DIST.: | | | | | | | | |
| Totals | ..... | 1,360 | ..... | 705 | 59.2 | 383.00 | 2 | 26 |
| BUFFALO | 300,000 | 741 | 29.64 | 402 | 62.4 | 483.75 | 2 | 13 |
| TONAWANDA | 7,145 | 20 | 33.60 | 14 | 70.0 | 350.00 | .... | .... |
| Amherst | 3,960 | 5 | 15.25 | 1 | 20.0 | ..... | .... | .... |
| *North Tonawanda* | 4,800 | 12 | 30.00 | 10 | 83.3 | 333.33 | .... | .... |
| LOCKPORT | 16,088 | 17 | 12.75 | 8 | 47.0 | 235.00 | .... | .... |
| NIAGARA FALLS | 5,502 | 17 | ..... | 9 | 53.0 | 235.22 | .... | .... |
| *Medina* | 4,500 | 4 | 11.50 | 2 | 50.0 | 250.00 | .... | .... |
| *Albion* | 4,536 | 6 | 15.60 | 1 | 16.7 | 166.67 | .... | .... |
| *Brockport* | 3,742 | 1 | .... | 0 | .... | .... | .... | .... |
| ROCHESTER | 150,000 | 235 | 18.80 | 104 | 44.2 | 285.12 | .... | 1 |

FOR AUGUST — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 5 | 8 | | 1 | | 1 | 1 | | 1 | | | | 4 |
| | | | | | | 1 | | 1 | | | | | | | | | | |
| | | 2 | | | | | 1 | 1 | | | | 1 | | 2 | | | 2 | 1 |
| | | | | | | | | | | | | | | | 1 | | | 1 |
| | | | | | | 10 | 5 | | 4 | | 1 | 1 | | 3 | 1 | 1 | | |
| | | | | | | | | | | | | | 2 | 1 | | | 1 | |
| | | | | 2 | | 4 | 27 | 3 | 9 | 2 | 20 | 13 | 24 | 12 | 5 | 12 | 25 | 18 |
| 1 | | 2 | 1 | | 2 | 12 | 99 | 16 | 50 | 7 | 35 | 19 | 50 | 45 | 15 | 24 | 40 | 44 |
| | | | | | 2 | 6 | 44 | 5 | 19 | 1 | 8 | 4 | 9 | 13 | 4 | 7 | 6 | 19 |
| | | | | | | | | | | | | | | 1 | | 1 | | |
| | | | | | | 2 | 6 | | 3 | | 3 | | | | | | | |
| | | | | | | | 1 | | 2 | | | | 1 | 1 | | | 2 | |
| | | | | | | | | | 1 | | | | | | | | 1 | 1 |
| | | | | | | | 1 | | | | | 1 | 2 | | | | 1 | |
| | | | | | | | 1 | | 2 | | 2 | | | | | | | |
| | | | | | | | | | | | 1 | | 1 | 1 | | 1 | | |
| | | 1 | | | | | 3 | | 1 | | | 1 | 1 | | | 2 | | |
| | | | | | | | 2 | | 1 | | 1 | | | 2 | | 2 | 1 | 2 |
| | | | | | | | 1 | 1 | 2 | | | | | | | | | 2 |
| | | | | | | | 1 | | 1 | | | | | 1 | | | 1 | |
| | | | | | | | | | | | | | | 1 | | | | |
| | | | | | | | 3 | | | | 3 | | | 1 | | | | |
| | | | | | | | | | | | 1 | 1 | | 1 | 1 | | | |
| | | | | | | | 2 | | | | | | 2 | | | | | |
| 1 | | 1 | 1 | | | 4 | 34 | 10 | 18 | 5 | 16 | 12 | 34 | 23 | 9 | 12 | 27 | 20 |
| 3 | | | | 1 | 5 | 8 | 60 | 9 | 22 | 3 | 21 | 21 | 27 | 30 | 10 | 28 | 32 | 28 |
| | | | | | | 3 | 18 | | 4 | | 3 | 2 | 3 | 2 | 1 | | 4 | 4 |
| | | | | | | 1 | 1 | | 1 | | | | | | 1 | | | |
| | | | | | | | 1 | | | | | | 1 | | | | 2 | |
| | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | | 3 | | 1 | | | 1 | | 1 | | 1 | 1 | |
| 1 | | | | | | | 2 | 1 | | | | | 3 | 1 | | | 1 | 1 |
| | | | | | | | | | | | 1 | 2 | 1 | 2 | | | | |
| | | | | | 1 | | 3 | 1 | | | | 1 | 1 | 1 | 1 | | | |
| | | | | | | | 2 | | | | 1 | 1 | 2 | 1 | | 1 | 1 | |
| | | | | | | | 2 | | | | 2 | | 1 | | | | 1 | 1 |
| | | | | | 1 | | 1 | | 1 | | 1 | | 1 | | | | 1 | |
| | | | | | | | | | | | | | | | | 6 | | |
| | | | | | | | 3 | | | | | | | | | | | |
| 2 | | | | 1 | 3 | 4 | 24 | 7 | 15 | 3 | 13 | 13 | 14 | 22 | 7 | 20 | 21 | 21 |
| 1 | | 13 | 1 | 3 | 10 | 19 | 446 | 60 | 88 | 3 | 134 | 39 | 70 | 175 | 33 | 57 | 58 | 121 |
| 1 | | 11 | 1 | | 7 | 15 | 306 | 35 | 35 | 2 | 81 | 16 | 22 | 88 | 10 | 27 | 15 | 50 |
| | | | | | 1 | | 6 | | | | | 1 | | 2 | | 3 | | 6 |
| | | | | | | | | 1 | 2 | | | | | | 1 | | | 1 |
| | | | | | | | 4 | | | | | | | 5 | | 1 | | 2 |
| | | | | | | | 4 | | 2 | | 2 | | 2 | 1 | 1 | | 2 | 3 |
| | | | | | | | 4 | 1 | 2 | | 1 | | 1 | 1 | | 4 | | 3 |
| | | | | | | | 1 | | | | | 1 | | | 1 | | | 1 |
| | | | | | | | 1 | | 1 | | | | 1 | 2 | | 1 | | |
| | | 2 | | 2 | | 3 | 55 | 17 | 19 | | 24 | 9 | 9 | 32 | 6 | 8 | 16 | 28 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONTARIO AND WESTERN DISTRICT—(*Continued*): | | | | | | | | |
| Palmyra | 4,173 | 4 | 12.00 | 1 | 25.0 | 250.00 | ... | ... |
| *Newark* | 3,000 | 3 | 12.00 | 2 | 66.6 | ..... | ... | 1 |
| Lyons | 6,127 | 10 | 19.50 | 3 | 30.0 | 300.00 | ... | ... |
| *Clyde* | 3,000 | 4 | 16.00 | 1 | 25.0 | 500.00 | ... | 1 |
| OSWEGO | 21,966 | 48 | 26.16 | 22 | 42.3 | 312.50 | .. | 1 |
| *Fulton* | 4,214 | 3 | 8.50 | 0 | .... | 333.33 | .... | ... |
| Richland | 3,637 | 4 | 12.74 | 1 | 25.0 | 250.00 | .... | .... |
| Rest of District | ..... | 226 | ..... | 63 | 27.8 | 224 20 | 1 | 3 |
| Totals for the State | ..... | 11,037 | ..... | 4,954 | 45.0 | 298.64 | 55 | 157 |
| Av'ge for Aug. for past 8 years | ..... | 9,390 | ..... | 4,252 | 45.4 | 310 22 | 42 | 169 |
| Totals for July, 1893 | ..... | 12,337 | ..... | 6,246 | 50.5 | 324.25 | 86 | 87 |

REMARKS.— The 11,037 deaths during August represent an estimated death-rate of 21.20 for the and for the rural portion of the State 15.40. The average daily mortality for the month was 356 in July of 398, which is customary. There were 1,280 fewer deaths reported than in July; a mortality in the Mohawk Valley and in the western districts. This variation has been chiefly in elsewhere it has uniformly increased over July, in the cities and country alike. Of other *Fever* and *Whooping Cough*, there being also a slight increase in *Malarial diseases* in the relatively the same as usual, but the mortality from it both in July and August is less than it was 2.17. The increase in *Whooping Cough*, which caused 129 deaths, is distributed in all parts of the prevalent than a year ago; in Jamestown it has been epidemic and the Southern Tier district is is much less than it was a year ago; it is limited almost entirely to New York city. Deaths from excessive during August, being above the average by 2.85 inches in the course of the month; the normal average of 70°, which is one degree lower than in July; the ranges were greater in all parts

FOR AUGUST — (*Concluded*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | ... | .... | ... | .... | ... | 1 | 1 | ..... | .... | 1 | .... | .... | ... .. | ... | ... | 1 | ... |
| ... | .... | ... | .... | ... | .... | ... | 2 | ..... | ..... | .... | ... .. | .... | ..... | ... .. | ... | .... | ... | ... |
| ... | ... | ... | .... | 1 | .... | 1 | ..... | 1 | ..... | .... | ..... | .... | ..... | ... ... | 2 | ... | 2 | 3 |
| ... | .. | .... | ... | ... | .... | .. | 1 | ..... | 1 | ... | ..... | ... | ..... | ... ... | ... | 1 | ... | .... |
| .. | .... | .... | .... | ... | .... | ... | 14 | ..... | ..... | ... | 2 | ... | 8 | 10 | 2 | .... | 3 | 8 |
| ... | .... | .... | .... | ... | .... | .... | 1 | ..... | ..... | ... | ..... | 1 | ..... | ... ... | ... | .... | .... | 1 |
| ... | ... | .... | .... | .... | .... | .... | 1 | ..... | ..... | ... | ..... | .... | 2 | ..... | 1 | ... | ... | ... |
| ... | .... | .... | .... | .... | 2 | .... | 45 | 4 | 26 | 1 | 23 | 10 | 25 | 34 | 9 | 12 | 16 | 15 |
| 62 | 11 | 63 | 44 | 14 | 129 | 328 | 2,406 | 663 | 1,040 | 73 | 986 | 534 | 676 | 1,167 | 283 | 600 | 432 | 1212 |
| 82 | 4 | 68 | 49 | 14 | 118 | 289 | 2,082 | 565 | 979 | 68 | 716 | 409 | 540 | 900 | 225 | 416 | 473 | 1180 |
| 45 | 16 | 79 | 79 | 13 | 92 | 379 | 3,206 | 746 | 1,073 | 72 | 1,219 | 552 | 726 | 1,252 | 300 | 598 | 383 | 1330 |

entire State; for 150 cities, villages and populous towns having 4,735,000 population it is 22.75, which is nearly that, for this month, of the two years preceding. It has fallen from a daily rate greater diminution than this occurred in the Maritime District, but there has been an increased *Diarrhœal diseases*, which caused hardly half as many deaths in New York and vicinity, while Zymotic diseases, those showing an increase of mortality in all parts of the State are *Typhoid* Maritime district. The customary increase in the mortality from Typhoid Fever in August is last year; in cities and villages there were 2.60 deaths per 10,000 population, and in the country State. Diphtheria caused a less number of deaths (327) than in any month of the year, but is more the only one that shows an increase in mortality from this cause. The mortality from Measles (44) all local diseases are fewer than in July. The rainfall which since May has been deficient, was dew-point and humidity were higher than in July. The temperature has not varied from the of the State. The prevailing wind was southerly.

MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths and causes in the following*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Roman

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: | | | | | | | | |
| Totals | | 5,412 | | 2,482 | 45.8 | 236.30 | 31 | 86 |
| NEW YORK CITY | 1,860,803 | 3,031 | 19.80 | 1,385 | 46.0 | 236.50 | 19 | 42 |
| BROOKLYN | 978,394 | 1,575 | 19.34 | 789 | 50.0 | 220.32 | 7 | 21 |
| Gravesend | 8,418 | 14 | 20.00 | 8 | 57.1 | 428.57 | | |
| New Utrecht | 9,129 | 6 | | 3 | 50.0 | 166.67 | | |
| LONG ISLAND CITY | 35,745 | 104 | 33.60 | 54 | 58.7 | 479 10 | 1 | 4 |
| Newtown | 19,776 | 40 | 24.50 | 21 | 51.5 | 250 00 | | |
| Oyster Bay | 14,887 | 18 | 14.30 | 6 | 33.3 | 111.11 | | |
| Hempstead | 23,991 | 34 | 17.20 | 14 | 41.2 | 234.75 | 1 | 1 |
| North Hempstead | 8,726 | 6 | 9.00 | 2 | 33.3 | | | |
| Jamaica | 17,654 | 24 | 16.32 | 11 | 35.3 | 60.00 | | |
| Flushing | 20,816 | 26 | 15.00 | 9 | 34.2 | 76.85 | | |
| Southold | 7,671 | 19 | 29.64 | 5 | 26.3 | 350 00 | | |
| *Sag Harbor* | 3,000 | 1 | 4.00 | 1 | | | | |
| Huntington | 8,253 | 16 | 23.36 | 5 | 31.2 | 312 50 | | 1 |
| Brookhaven | 13,493 | 30 | 27.00 | 11 | 36 7 | 233 33 | | 2 |
| *New Brighton* | 16,423 | 26 | 19 00 | 10 | 38.4 | 230.76 | | 1 |
| *Edgewater* | 14,265 | 23 | 19.32 | 12 | 52.2 | 173 90 | | 1 |
| *Port Richmond* | 6,390 | 10 | 18.75 | 4 | 40 0 | 200 00 | 1 | |
| Westfield | 8,648 | 18 | 25.00 | 11 | 61.0 | 390 00 | | |
| YONKERS | 34,000 | 49 | 17.30 | 24 | 49.2 | 245 00 | | 1 |
| Westchester | 8,326 | 12 | 17.28 | 4 | 33.3 | 416.66 | | 1 |
| Greenburgh | 11,630 | 13 | | 5 | 38.5 | 384.65 | | |
| MOUNT VERNON | 15,513 | 22 | | 7 | | | | 1 |
| *Port Chester* | 5,274 | 12 | 25.80 | 8 | 66.6 | 583.33 | | |
| *Sing Sing* | 9,352 | 14 | 17.76 | 4 | 28.5 | 214.28 | | |
| *New Rochelle* | 8,217 | 5 | | 4 | 80.0 | 400 00 | | |
| *Peekskill* | 9,676 | 23 | 29.44 | 7 | 30.4 | 173.82 | | 1 |
| *White Plains* | 4,042 | 9 | 26.50 | 2 | 22.2 | 555.55 | 1 | |
| Rest of District | | 232 | | 56 | 24.3 | 243.10 | 1 | 8 |
| HUDSON VALLEY DISTRICT: | | | | | | | | |
| Totals | | 836 | | 234 | 28.0 | 203.35 | 2 | 11 |
| ALBANY | 98,000 | 137 | 16.70 | 39 | 28.5 | 157.60 | | 4 |
| COHOES | 23,234 | 39 | 20.16 | 16 | 40.0 | 310.00 | | 2 |
| TROY | 64,986 | 82 | 15.17 | 33 | 40.0 | 273.85 | | 2 |
| *West Troy* | 12,967 | 22 | 21.00 | 10 | 45.4 | 318.18 | | |
| *Green Island* | 4,463 | 6 | 16.00 | 3 | 50.0 | 333.33 | | |
| *Lansingburgh* | 10,550 | 14 | 15.92 | 8 | 57.1 | 352.85 | | 1 |
| *Hoosick Falls* | 7,014 | 3 | | 1 | 33.3 | | | |
| *Greenbush* | 7,462 | 14 | 23.00 | 2 | 14.3 | 142.85 | | 1 |
| Coxsackie | 3,824 | 5 | 15.90 | 3 | 60.0 | 200.00 | | |
| *Catskill* | 4,920 | 10 | 24.00 | 4 | 40.0 | 300.00 | | |
| HUDSON | 9,633 | 12 | 14.88 | 1 | 8.3 | 166.67 | | 1 |
| KINGSTON | 21,500 | 37 | 20.72 | 11 | 30.0 | 243.43 | | 3 |
| *Ellenville* | 3,000 | 3 | 12.00 | 2 | 66.6 | 666.66 | | 1 |
| Marbletown | 3,689 | 7 | 23.10 | 4 | 57.0 | 570.14 | | 1 |
| Rosendale | 6,125 | 4 | | 2 | 50.0 | 500.00 | | |
| Esopus | 5,035 | 7 | 17.00 | 1 | 14.3 | 428.70 | | |
| *Saugerties* | 4,237 | 6 | 17.00 | 1 | 16.7 | 166.67 | 1 | |
| POUGHKEEPSIE | 22,200 | 22 | | 3 | 13.6 | | | |
| *Fishkill* | 3,617 | 5 | 16.58 | 2 | 40.0 | | | |
| *Wappinger Falls* | 3,718 | 4 | 12.88 | 1 | 25 0 | | | |
| NEWBURGH | 24,536 | 49 | 24.00 | 10 | 20 4 | 183.66 | | 1 |

## YORK STATE BOARD OF HEALTH.

*districts, cities and towns, during September,* 1893.

type. For boundaries of *Sanitary Districts*, see Annual Summary.]

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 23 | 15 | 23 | 5 | 52 | 247 | 755 | 517 | 579 | 37 | 513 | 358 | 289 | 503 | 125 | 244 | 107 | 863 |
| 20 | 13 | 11 | 17 | 4 | 34 | 148 | 407 | 316 | 333 | 23 | 296 | 198 | 165 | 233 | 70 | 163 | 40 | 483 |
| 20 | .... | 3 | 3 | 1 | 14 | 51 | 227 | 150 | 163 | 12 | 162 | 112 | 75 | 178 | 30 | 45 | 30 | 271 |
| .... | .... | .... | .... | .... | .... | 1 | 5 | 2 | 1 | .... | 2 | 1 | .... | 1 | .... | .... | 1 | .... |
| .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | 1 | 1 | 1 | .... | .... | .... | .... |
| 3 | .... | .... | 2 | .... | 1 | 21 | 15 | 7 | 3 | 1 | 7 | 3 | 4 | 3 | 2 | 5 | 2 | 15 |
| 1 | .... | .... | .... | .... | .... | 3 | 6 | 3 | 3 | .... | 5 | 2 | 2 | 4 | .... | 1 | .... | 10 |
| .... | .... | .... | .... | .... | .... | .... | 2 | 2 | 1 | .... | .... | 1 | 2 | 3 | 1 | .... | 3 | 3 |
| .... | .... | .... | .... | .... | 1 | .... | 5 | .... | 2 | .... | 2 | 2 | 1 | 5 | 3 | 3 | 1 | 7 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | 1 | .... | 2 |
| .... | .... | .... | .... | .... | .... | .... | 2 | 5 | 2 | .... | 3 | 2 | 3 | 1 | .... | 1 | 1 | 4 |
| .... | .... | .... | .... | .... | 1 | .... | 1 | 3 | 3 | .... | 3 | 6 | 1 | 4 | 1 | .... | 1 | 2 |
| 1 | .... | .... | .... | .... | .... | 4 | 2 | 2 | 1 | .... | 1 | 1 | .... | 1 | .... | 2 | 2 | 2 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| .... | .... | .... | .... | .... | .... | 1 | 4 | 1 | 1 | .... | .... | .... | 2 | 2 | 1 | 1 | 1 | 2 |
| .... | .... | .... | .... | .... | .... | 1 | 3 | .... | 3 | .... | 3 | 1 | .... | 7 | 1 | .... | 4 | 4 |
| 1 | .... | .... | .... | .... | .... | .... | 4 | .... | 3 | .... | 4 | 2 | .... | 2 | 3 | 2 | 1 | 3 |
| .... | .... | .... | .... | .... | .... | .... | 2 | 1 | 2 | .... | 2 | .... | 2 | 3 | .... | 1 | .... | 3 |
| 1 | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | 1 | 1 | 2 | .... | .... | 2 |
| .... | 1 | .... | .... | .... | .... | .... | 6 | .... | 1 | .... | .... | .... | 2 | 3 | .... | .... | 1 | 4 |
| .... | .... | .... | .... | .... | .... | .... | 10 | 12 | .... | .... | 6 | 4 | 1 | 8 | .... | 1 | .... | 5 |
| 1 | .... | .... | .... | .... | .... | 2 | 2 | .... | .... | .... | .... | 1 | 1 | .... | 1 | 1 | 2 | 1 |
| .... | .... | .... | .... | .... | .... | .... | 4 | 1 | 1 | 1 | .... | .... | .... | 2 | 1 | .... | .... | 2 |
| .... | .... | .... | .... | .... | .... | .... | 4 | .... | 2 | .... | 4 | .... | 2 | 4 | .... | .... | 2 | 3 |
| .... | .... | .... | .... | .... | .... | 1 | 6 | .... | 1 | .... | 1 | 1 | .... | .... | .... | .... | .... | 2 |
| .... | .... | .... | .... | .... | .... | .... | 3 | 1 | 2 | .... | .... | 1 | 1 | 2 | 1 | 2 | .... | 1 |
| .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | .... |
| .... | .... | .... | .... | .... | .... | .... | 3 | 1 | 5 | .... | 1 | 2 | 1 | 4 | .... | 1 | 3 | 1 |
| .... | .... | .... | .... | .... | .... | 4 | .... | .... | .... | .... | 2 | .... | 1 | 1 | .... | .... | .... | .... |
| 2 | 3 | 1 | 1 | .... | 1 | 10 | 28 | 8 | 45 | .. | 5 | 12 | 20 | 28 | 8 | 14 | 12 | 25 |
| 10 | ... | 1 | ... | 1 | 11 | 29 | 85 | 53 | 94 | 6 | 73 | 37 | 72 | 128 | 29 | 45 | 41 | 86 |
| 1 | .. | 1 | .... | .... | 6 | 6 | 4 | 13 | 24 | .... | 6 | 8 | 9 | 26 | .. | 8 | 2 | 21 |
| .... | .... | .... | .... | .... | 1 | 1 | 8 | 1 | 4 | .... | 4 | 2 | 6 | 5 | 2 | 1 | 1 | 1 |
| .... | .... | .... | .... | .... | 4 | 3 | 13 | 10 | 9 | 1 | 5 | 4 | 6 | 12 | .. | 5 | 3 | 5 |
| .... | .... | .... | .... | .... | .... | .... | 5 | 2 | 1 | .. | 2 | . | 1 | 3 | .... | 1 | 1 | 4 |
| .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 1 |
| .... | .... | .... | .... | .... | .... | .... | 4 | 1 | 2 | .... | .... | 1 | .... | 2 | .... | 1 | .... | 2 |
| .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | .... |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | 4 | .... | .... | 1 | 4 | .... | 1 | .... | 1 | 1 |
| .... | .... | .... | .... | .... | .... | 3 | 1 | 2 | .... | .... | .... | 1 | .... | .... | .... | 2 | .... | 4 |
| 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 2 | 3 | 2 | 1 | .... | .... |
| 2 | .... | .... | .... | .... | .... | 1 | 3 | 2 | 5 | 2 | 5 | 1 | 4 | 5 | 1 | .... | 2 | 1 |
| .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| 1 | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 |
| .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | .... |
| .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | 1 | .... | 1 | .... | .... | 1 | .... | 1 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 1 | 1 | .... | .... | 1 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | 1 | 2 | 1 | 1 | 3 | 5 | 2 | .... | 4 |
| .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | 1 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | 1 | .... | .... |
| 3 | .... | .... | .... | .... | .... | .... | 5 | 5 | 7 | .... | 4 | 4 | 2 | 9 | .... | .... | 3 | 6 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. |
|---|---|---|---|---|---|---|---|
| HUDSON VALLEY DIST.—(*Cont'd*): | | | | | | | |
| *Port Jervis* | 9,327 | 11 | 14.00 | 3 | 28.2 | 90.00 | ... |
| MIDDLETOWN | 11,612 | 22 | 21.50 | 6 | 28.6 | 238.00 | ... |
| Goshen | 4,646 | 5 | 13.00 | 1 | 20.0 | ... | ... |
| Montgomery | 5,259 | 10 | 22.80 | 2 | 20.0 | 300.00 | ... |
| Haverstraw | 7,714 | 10 | 15.60 | 3 | 30.0 | 200.00 | ... |
| *Nyack* | 5,603 | 4 | 9.00 | 2 | 50.0 | 500.00 | ... |
| Ramapo | 6,600 | 8 | 14.56 | 4 | 50.0 | 125.00 | ... |
| Rest of District | ..... | 278 | ..... | 56 | 20.0 | 178.40 | 1 |
| ADIRONDACK & NORTH'N DIST.: | | | | | | | |
| Totals | ..... | 364 | ..... | 96 | 26.4 | 292.75 | 2 |
| WATERTOWN | 16,982 | 30 | 21.18 | 5 | 16.7 | 266.67 | 1 |
| Ellisburgh | 4,223 | 11 | 30.00 | 4 | 36.4 | 181.80 | ... |
| Cape Vincent | 3,000 | 4 | 16.00 | 0 | .... | ..... | ... |
| Clayton | 4,250 | 6 | 16.80 | 1 | 16.7 | 166.67 | ... |
| OGDENSBURG | 11,959 | 23 | 23.10 | 7 | 30.4 | 217.38 | ... |
| Gouverneur | 5,921 | 9 | 18.24 | 5 | 55.5 | 222.22 | 1 |
| *Potsdam* | 4,000 | 5 | 15.00 | 3 | 60.0 | 400.00 | ... |
| Canton | 6,013 | 4 | 8.00 | 1 | 25.0 | 500.00 | ... |
| *Malone* | 5,000 | 4 | 10.00 | 0 | .... | 500.00 | ... |
| *Plattsburgh* | 7,010 | 13 | 22.23 | 9 | 69.2 | 692.30 | ... |
| *Glens Falls* | 9,509 | 19 | 23.95 | 5 | 26.3 | 157.85 | ... |
| *Whitehall* | 4,434 | 2 | 6.00 | 0 | .... | ..... | ... |
| Fort Edward | 4,382 | 4 | 11.00 | 3 | 75.0 | 500.00 | ... |
| Kingsbury | 5,112 | 3 | ..... | 0 | .... | ..... | ... |
| Granville | 5,281 | 8 | 18.16 | 3 | 37.5 | 375.00 | ... |
| Salem | 3,167 | 4 | 15.80 | 0 | .... | 250.00 | ... |
| Greenwich | 4,431 | 2 | .... | 0 | .... | ..... | ... |
| Rest of District | ..... | 213 | ..... | 50 | 23.5 | 291.10 | ... |
| MOHAWK VALLEY DISTRICT: | | | | | | | |
| Totals | ..... | 437 | ..... | 121 | 27.7 | 233.40 | 2 |
| SCHENECTADY | 22,853 | 25 | 13.60 | 6 | 24.0 | 320.00 | ... |
| Cobleskill | 3,436 | 6 | 21.00 | 2 | 33.3 | 333.33 | ... |
| AMSTERDAM | 18,542 | 27 | 17.47 | 8 | 29.6 | 222.22 | ... |
| *Fort Plain* | 3,000 | 3 | 12.00 | 1 | 33.3 | ..... | ... |
| *Johnstown* | 7,768 | 16 | 24.64 | 6 | 37.5 | 318.75 | ... |
| GLOVERSVILLE | 14,694 | 17 | 14.00 | 9 | 53.0 | 588.25 | ... |
| *Little Falls* | 8,783 | 9 | 12.30 | 4 | 44.4 | 444.24 | ... |
| *Herkimer* | 3,000 | 2 | 8.00 | 0 | .... | 500.00 | ... |
| *Ilion* | 4,057 | 8 | 23.60 | 4 | 50.0 | 250.00 | ... |
| UTICA | 46,608 | 77 | 19.86 | 26 | 33.8 | 157.13 | ... |
| ROME | 13,688 | 16 | 14.08 | 2 | 12.5 | 250.00 | ... |
| Boonville | 3,512 | 4 | 13.66 | 2 | 50.0 | 250.00 | ... |
| Camden | 3,675 | 5 | 16.33 | 2 | 40.0 | 200.00 | ... |
| Waterford | 5,522 | 6 | 13.00 | 2 | 33.3 | 166.67 | ... |
| *Ballston Spa* | 3,527 | 6 | 20.40 | 3 | 60.0 | 200.00 | ... |
| *Saratoga Springs* | 12,000 | 26 | 26.00 | 5 | 19.3 | 230.77 | 1 |
| Rest of District | ..... | 184 | .... | 39 | 20.6 | 200.00 | 1 |
| SOUTHERN TIER DISTRICT: | | | | | | | |
| Totals | ..... | 422 | ..... | 106 | 25.0 | 263.10 | 2 |
| BINGHAMTON | 34,514 | 43 | 15.00 | 13 | 30.0 | 116.28 | ... |
| *Owego* | 6,000 | 11 | 22.00 | 6 | 54.5 | 363.63 | ... |
| Candor | 3,525 | 7 | 23.80 | 0 | .... | 428.50 | ... |
| *Waverly* | 4,123 | 4 | 12.00 | 0 | .... | 250.00 | ... |
| ELMIRA | 30,000 | 42 | 16.80 | 7 | 16.7 | 119.00 | ... |
| Horseheads | 3,319 | ..... | ..... | ..... | ..... | ..... | ... |

FOR SEPTEMBER — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | 3 | ... | 3 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | 4 | 1 | 2 | 1 | ... | 2 | 1 | ... | ... | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | 2 | 2 | 1 | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 3 | ... | 1 | 2 | ... |
| ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| 2 | ... | ... | ... | 1 | ... | 2 | 1 | ... | 1 | ... | ... | 1 | 1 | 1 | ... | ... | ... | 3 |
| 2 | ... | ... | ... | ... | ... | 9 | 27 | 13 | 25 | ... | 32 | 11 | 29 | 43 | 12 | 16 | 26 | 21 |
| 2 | ... | 2 | ... | ... | 7 | 14 | 63 | 14 | 29 | 4 | 33 | 14 | 31 | 45 | 13 | 19 | 3 | 23 |
| ... | ... | 1 | ... | ... | 1 | ... | 4 | 1 | 1 | ... | 4 | 2 | 1 | 5 | 5 | 1 | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | ... | 1 | ... | 2 | ... | ... | ... | 1 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 2 | 1 |
| ... | ... | ... | ... | ... | 2 | ... | 3 | ... | 8 | 1 | ... | ... | 3 | 4 | 2 | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | 1 | 2 | ... | 1 | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | 2 | 1 | 6 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 2 |
| ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 2 | 1 | 3 | ... | 3 | ... | ... | ... | 2 | 4 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 3 | 1 | 1 | 1 | ... | 1 | ... | ... | 1 | 2 | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| 2 | ... | 1 | ... | ... | 2 | 10 | 38 | 8 | 16 | 1 | 19 | 9 | 18 | 33 | 5 | 13 | 23 | 6 |
| 1 | ... | 3 | 1 | 2 | 3 | 16 | 62 | 18 | 46 | 4 | 40 | 23 | 30 | 55 | 22 | 25 | 39 | 33 |
| ... | ... | ... | ... | 1 | ... | 3 | 3 | 1 | 2 | 1 | 2 | 1 | 2 | ... | 2 | 3 | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 4 | ... | 3 | ... | 3 | 1 | 1 | 2 | 3 | 1 | 3 | 4 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | 4 | 2 | ... | ... | 1 | ... | 3 | ... | 3 | 1 | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 4 | ... | ... | 1 | 1 | 1 |
| ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 2 | ... | ... | ... | 1 | ... | ... | 1 | 1 | ... |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | 1 | 1 | ... | 5 | 4 | 4 | 9 | ... | 10 | 7 | 5 | 13 | 3 | 6 | 5 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 4 | ... | 1 | ... | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 2 |
| ... | ... | ... | ... | ... | 1 | 2 | 2 | 2 | 3 | ... | 4 | 5 | ... | 2 | 1 | ... | 4 | 1 |
| 1 | ... | 2 | ... | ... | 2 | 2 | 23 | 7 | 23 | 3 | 13 | 7 | 11 | 34 | 8 | ... | 18 | 14 |
| ... | ... | 1 | ... | ... | 1 | 30 | 64 | 20 | 29 | 6 | 33 | 16 | 43 | 52 | 13 | 17 | 46 | 35 |
| ... | ... | ... | ... | ... | 1 | ... | 4 | 2 | ... | 2 | 5 | 2 | 7 | 10 | 1 | 2 | 4 | 2 |
| ... | ... | ... | ... | ... | ... | 1 | 3 | 1 | 1 | ... | ... | ... | 1 | ... | 1 | 2 | ... | 1 |
| ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | 2 | 3 | 3 | 5 | ... | 3 | 1 | 6 | 5 | ... | 4 | 5 | 5 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| **SOUTHERN TIER DIST.—(*Cont'd.*)** | | | | | | | | |
| HORNELLSVILLE | 11,898 | 12 | 13.00 | 5 | 41.7 | 416.67 | .... | 1 |
| *Bath* | 3,261 | 5 | 18.40 | 0 | .... | 200.00 | .... | 1 |
| CORNING | 10,025 | 12 | 14.40 | 2 | 16.7 | 583.33 | .... | 3 |
| Wellsville | 5,033 | 2 | .... | 0 | .... | .... | .... | .... |
| *Olean* | 7,358 | 18 | 29.34 | 3 | 16.7 | 266.67 | .... | 1 |
| *Salamanca* | 3,700 | 2 | 10.00 | 1 | 50.0 | .... | .... | .... |
| JAMESTOWN | 18,627 | 40 | 25.60 | 12 | 30.0 | 575.00 | .... | 2 |
| *Westfield* | 3,000 | 5 | 20.00 | 0 | .... | 200.00 | .... | 1 |
| *Fredonia* | 3,400 | 6 | 21.18 | 3 | 50.0 | 500.00 | .... | .... |
| Rest of District | .... | 218 | .... | 54 | 23.0 | 225.30 | 2 | 4 |
| **EAST CENTRAL DISTRICT:** | | | | | | | | |
| Totals | .... | 451 | .... | 117 | 26.0 | 237.75 | 1 | 14 |
| SYRACUSE | 91,944 | 135 | 17.62 | 55 | 40.8 | 296.30 | 1 | 2 |
| *Baldwinsville* | 3,040 | 2 | 8.00 | 1 | 50.0 | .... | .... | .... |
| De Witt | 5,182 | 9 | 20.79 | 1 | 11.1 | 555.50 | .... | 1 |
| *Cortland* | 8,590 | 12 | 16.80 | 2 | 16.7 | 333.33 | .... | 2 |
| *Homer* | 3,000 | 8 | 32.00 | 2 | 25.0 | 625.00 | .... | 1 |
| *Onetda* | 6,083 | 3 | .... | 1 | 33.3 | 333.33 | .... | .... |
| Hamilton | 4,110 | 3 | 9.00 | 0 | .... | .... | .... | .... |
| Cazenovia | 3,803 | 5 | 15.78 | 3 | 60.0 | 600.00 | .... | .... |
| Brookfield | 3,235 | 3 | 11.20 | 0 | .... | .... | .... | .... |
| *Norwich* | 5,212 | 7 | 16.17 | 1 | 14.3 | .... | .... | .... |
| *Oneonta* | 6,776 | 8 | 16.30 | 4 | 50.0 | 250.00 | .... | .... |
| Worcester | 2,670 | 3 | 13.50 | 0 | .... | .... | .... | .... |
| *Cooperstown* | 3,000 | 4 | 16.00 | 0 | .... | .... | .... | .... |
| Walton | 4,811 | 8 | 20.00 | 1 | 12.5 | 250.00 | .... | 1 |
| Delhi | 3,000 | 7 | 28.00 | 1 | 14.2 | 142.85 | .... | .... |
| Liberty | 3,471 | 5 | 17.28 | 2 | 40.0 | 400.00 | .... | .... |
| Rest of District | .... | 229 | .... | 43 | 18.8 | 173.85 | .... | 7 |
| **WEST CENTRAL DISTRICT:** | | | | | | | | |
| Totals | .... | 307 | .... | 80 | 26.0 | 289.00 | 1 | 13 |
| AUBURN | 24,737 | 41 | 17.89 | 15 | 36.6 | 292.65 | .... | .... |
| ITHACA | 13,460 | 13 | 12.00 | 2 | 15.4 | 307.50 | .... | 1 |
| Hector | 4,832 | 4 | 10.00 | 1 | 25.0 | 250.00 | .... | 1 |
| *Waterloo* | 4,350 | 7 | 19.32 | 1 | 14.3 | 285.70 | .... | .... |
| *Seneca Falls* | 6,116 | 15 | 29.40 | 7 | 46.5 | 466.67 | .... | .... |
| *Geneva* | 7,557 | 1 | .... | 0 | .... | .... | .... | .... |
| *Canandaigua* | 5,868 | 13 | 26.00 | 9 | 69.2 | 538.50 | 1 | .... |
| Manchester | 4,181 | 3 | 8.55 | 1 | 33.3 | 333.33 | .... | .... |
| Phelps | 5,150 | 9 | 20.97 | 2 | 22.2 | 111.11 | .... | .... |
| *Penn Yan* | 4,254 | 10 | 28.20 | 1 | 10.0 | 200.00 | .... | 1 |
| *Batavia* | 7,221 | 8 | 13.00 | 4 | 50.0 | 750.00 | .... | 2 |
| *Dansville* | 3,758 | 4 | 12.80 | 1 | 25.0 | 500.00 | .... | 1 |
| Warsaw | 4,700 | 10 | 25.50 | 6 | 60.0 | 500.00 | .... | 1 |
| Rest of District | .... | 169 | .... | 30 | 17.8 | 223.52 | .... | 8 |
| **LAKE ONTARIO & WEST. DIST.:** | | | | | | | | |
| Totals | .... | 1,117 | .... | 482 | 43.1 | 322.30 | 8 | 41 |
| BUFFALO | 300,000 | 536 | 21.44 | 289 | 53.9 | 371.85 | 7 | 21 |
| TONAWANDA | 7,145 | 11 | 14.48 | 6 | 54.5 | 91.90 | .... | .... |
| Amherst | 3,960 | 6 | 18.00 | 3 | 50.0 | 333.33 | .... | .... |
| *North Tonawanda* | 4,800 | 12 | 29.20 | 5 | 416.66 | 250.00 | .... | .... |
| LOCKPORT | 16,088 | 15 | 12.00 | 6 | 40.0 | 133.33 | .... | .... |
| NIAGARA FALLS | 5,502 | 13 | .... | 5 | 38.5 | 230.75 | .... | 1 |
| *Medina* | 4,500 | 9 | 24.00 | 3 | 33.3 | 333.33 | .... | .... |
| *Albion* | 4,536 | 7 | 18.27 | 3 | 42.8 | 285.70 | .... | .... |

FOR SEPTEMBER — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal.) | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | ... | ... | ... | 4 | 1 | ... | ... | 1 | ... | 2 | ... | ... | ... | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 1 | 3 | ... | 1 | ... | ... | 1 | ... | 1 | ... | 1 | 1 | ... |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 2 | 1 | 1 | 1 | 2 | ... | 2 | 2 | ... | 1 | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 17 | 4 | 1 | 1 | ... | 1 | 4 | 4 | 1 | ... | 1 | ... | 4 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 3 | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 5 | 37 | 10 | 16 | 3 | 20 | 8 | 17 | 27 | 10 | 6 | 28 | 20 |
| 1 | ... | 1 | ... | 1 | 2 | 28 | 59 | 20 | 34 | 6 | 38 | 22 | 35 | 61 | 22 | 30 | 39 | 37 |
| ... | ... | ... | ... | ... | 1 | 13 | 23 | 7 | 12 | 2 | 5 | 5 | 12 | 12 | 5 | 7 | 7 | 21 |
| ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | 1 | ... | 1 | 1 | 1 | 2 | 1 |
| ... | ... | ... | ... | ... | ... | 3 | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | 1 | 2 | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | 1 | 3 | ... | 1 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | 2 | 1 | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 2 | 1 | 2 | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| 1 | ... | 1 | ... | 1 | 1 | 7 | 22 | 10 | 17 | 3 | 24 | 15 | 16 | 38 | 11 | 19 | 24 | 12 |
| 7 | ... | ... | ... | 1 | ... | 11 | 53 | 12 | 23 | 1 | 31 | 12 | 18 | 40 | 15 | 10 | 27 | 30 |
| 1 | ... | ... | ... | ... | ... | 5 | 6 | 2 | 3 | ... | 5 | 2 | 2 | 7 | 3 | ... | ... | 5 |
| ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | ... | ... | 2 | ... | ... | 1 | 1 | 1 | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... |
| 3 | ... | ... | ... | ... | ... | 2 | ... | 1 | 1 | ... | 1 | ... | ... | 2 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 4 | ... | 1 | ... | 2 | ... | ... | 1 | ... | ... | 2 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 6 | ... | 1 | ... | ... | ... | ... | 2 | 1 | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 3 | 1 | ... | 2 | ... | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | 3 | ... | 1 | 1 | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| 3 | ... | ... | ... | 1 | ... | 1 | 4 | 7 | 13 | 1 | 16 | 5 | 1 | 23 | 8 | 7 | 18 | 18 |
| 2 | ... | 11 | ... | 1 | 9 | 36 | 254 | 57 | 78 | 4 | 102 | 46 | 73 | 142 | 29 | 53 | 57 | 114 |
| ... | ... | 10 | ... | ... | 9 | 18 | 134 | 36 | 30 | 4 | 53 | 15 | 24 | 67 | 15 | 27 | 13 | 53 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | ... | ... | 2 | ... | 2 | 1 | 3 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 2 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | 1 | 2 | 2 | ... | 1 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 2 | ... | 3 | ... | ... | ... | 1 | 6 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 3 | 1 | 1 | ... | ... | 2 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | 2 | ... | ... | ... | 1 | 1 | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | 1 | 1 | ... | 1 | 1 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONT. & WEST. DIST.—(*C'd*) | | | | | | | | |
| *Brockport* | 3,742 | 5 | 15.00 | 2 | 40.0 | 200.00 | .... | 1 |
| ROCHESTER | 150,000 | 207 | 16.70 | 76 | 37.5 | 268.40 | .... | 6 |
| Palmyra | 4,173 | 8 | 22.96 | 4 | 50.0 | 375.00 | ... | .... |
| *Newark* | 3,000 | 5 | 20.00 | 1 | 20.0 | 200.00 | ... | .... |
| Lyons | 6,127 | 6 | 12.10 | 2 | 33.3 | 500.00 | .. | 1 |
| *Clyde* | 3,000 | 8 | 32.00 | 3 | 37.5 | 250.00 | .. | .... |
| OSWEGO | 21,966 | 28 | 15.26 | 9 | 32.1 | 535.70 | ... | 3 |
| *Fulton* | 4,214 | 5 | 14.25 | 1 | 20.0 | 200.00 | .... | ... |
| Richland | 3,537 | 5 | 15.92 | 2 | 40.0 | 400.00 | .... | ... |
| Rest of District | ..... | 231 | ..... | 63 | 27.0 | 282.60 | 1 | 6 |
| Totals for the State | .... | 9,346 | ..... | 3,718 | 39.8 | 248.65 | 49 | 227 |
| Av'ge for Sept. for past 8 years | ..... | 8,365 | ..... | 3,361 | 39.2 | 251.50 | 38 | 237 |
| Totals for August, 1893 | ..... | 11,037 | ..... | 4,954 | 45.0 | 298.64 | 55 | 157 |

REMARKS.—The 9,346 deaths reported in September represent an average daily mortality of 311, of the year has been 348. The death rate for the State is about 17.90, that of 150 cities, villages has been chiefly in the populous cities, the death rate in rural towns being fully up to the average. cent), the average for September being 25.1: in August about thirty per cent was from this cause. last year, when it also showed a moderate prevalence; it is nowhere reported as prevalent and all the year and but thirty-four deaths are reported from it, almost all of them from the large cities: more deaths than in last September (410 to 374); in the Southern Tier District its prevalence con- mortality than usual for this month. Small-pox increased in the Maritime District, where the originating in New York, has developed at Newton's Corners, in Hamilton county. Consumption was characterized by variable temperature, the average mean of 60° being 3° below the normal. higher and the total movement of wind greater.

FOR SEPTEMBER — (*Concluded*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | .... | .... | ... | .... | ... | .. | ... | .. | ... | .... | .. | 1 | .... | .. | .... | ... | 3 |
| ... | .... | .... | .... | 1 | . | 5 | 40 | 10 | 21 | .. | 17 | 11 | 16 | 30 | 8 | 7 | 14 | 24 |
| 1 | .... | . | .... | .... | .. | .. | 2 | .... | .. | ... | 1 | .... | .... | 1 | .... | 1 | 1 | 1 |
| .. | .... | .. | .... | .. | .... | .... | 1 | ... | 2 | .... | ... | .... | .. | 1 | .... | 1 | ... | .. |
| ... | ... | ... | .... | .... | .... | .... | 2 | ..... | 1 | .... | 1 | .... | . | .. | .... | 1 | .. | .. |
| ... | .... | .... | .... | .... | .... | .... | 2 | ... | ..... | .. | 1 | ... | 1 | 1 | .... | . | 1 | 2 |
| ... | .... | .... | .. | .... | .. | .. | 12 | ..... | 3 | .... | 3 | 1 | . . . | 2 | 1 | 1 | ... | 2 |
| ... | ..... | ... | .... | .... | ... | ... | 1 | 1 | ... | ... | 1 | ... | ... | 1 | .... | ... | 1 | .. |
| ... | .. | .... | .... | .... | .... | .... | 2 | ..... | ..... | .... | 1 | ... | 1 | ..... | ... | ... | 1 | ... |
| 1 | ... | 1 | .... | .... | .... | 13 | 43 | 9 | 17 | ... | 17 | 17 | 23 | 33 | 8 | 9 | 21 | 12 |
| 63 | 23 | 34 | 24 | 11 | 85 | 411 | 1, 395 | 713 | 912 | 68 | 863 | 528 | 591 | 1, 026 | 268 | 443 | 391 | 1221 |
| 96 | 5 | 68 | 24 | 14 | 91 | 348 | 1, 183 | 656 | 965 | 60 | 667 | 445 | 498 | 961 | 218 | 353 | 491 | 1072 |
| 62 | 11 | 63 | 44 | 14 | 129 | 328 | 2, 406 | 663 | 1, 040 | 73 | 986 | 534 | 676 | 1, 167 | 283 | 600 | 432 | 1314 |

against 356 in August and 319 in September, 1892; the average daily mortality for the nine months and populous towns being 19.00, and of the rural towns reporting 17.00. The decrease in mortality Zymotic diseases caused 2,319 deaths or a little less than one-fourth of the total mortality (24.8 per Typhoid fever shows less than the usual increase, having caused fewer deaths than in September of parts of the State show the diminution. Scarlet fever has steadily diminished in mortality through Gouverneur and Schuylerville recently report its prevalence. Diphtheria has increased and caused tinues and in the East Central it has increased. Diarhœal diseases have also caused a larger twenty-three deaths occurred, one of them being reported from Yonkers; a case of variolold, has caused fewer deaths (910), than in any month for two years. The weather during the month The excessive rain fall of August was followed by a slight deficiency; the relative humidity was

MONTHLY BULLETIN OF THE NE

*Abstract of reports of deaths and causes in the followin*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | ..... | 5,348 | .. .. | 2,143 | 40.0 | 188.75 | 37 | 1 |
| NEW YORK CITY | 1,860,803 | 3,069 | 19.40 | 1,226 | 40.0 | 187.00 | 24 | |
| BROOKLYN | 978,394 | 1,541 | 18.50 | 650 | 42.2 | 184.42 | 10 | |
| Gravesend | 8,418 | 6 | 10.00 | 4 | 66.6 | 166 67 | .... | |
| New Utrecht | 9,129 | 22 | 28.93 | 8 | 36.4 | 181 80 | 1 | |
| LONG ISLAND CITY | 35,745 | 73 | 24.50 | 41 | 56.1 | 291 65 | 2 | |
| Newtown | 19,776 | 40 | 24.00 | 22 | 55 0 | 275 00 | .... | |
| Oyster Bay | 14,887 | 23 | 18.50 | 3 | 13.0 | 43 40 | .... | |
| Hempstead | 23,991 | 17 | 8.50 | 8 | 47 0 | 60.00 | .... | |
| North Hempstead | 8,726 | 9 | 12.42 | 3 | 33.3 | .... | .... | |
| Jamaica | 17,654 | 31 | 19.72 | 16 | 49.0 | 137.20 | .... | |
| Flushing | 20,816 | 25 | 14 50 | 8 | 32.0 | 280.00 | .... | |
| Southhold | 7,671 | 7 | 11.00 | 1 | 14.3 | .... | .... | |
| *Sag Harbor* | 3,000 | 4 | 16.00 | 0 | .... | .... | .... | |
| Huntington | 8,253 | 8 | 10.00 | 1 | 12 5 | 125.00 | .... | |
| Brookhaven | 13,493 | 10 | 10.00 | 3 | 30.0 | 200.00 | .... | |
| *New Brighton* | 16,423 | 37 | 27.00 | 11 | 29.5 | 324.32 | .... | |
| *Edgewater* | 14,265 | 20 | 16.80 | 10 | 50.0 | 300.00 | .... | |
| *Port Richmond* | 6,390 | 12 | 22.50 | 7 | 58.3 | 166.67 | .... | |
| Westfield | 8,648 | 11 | 15.30 | 2 | 19.2 | 90.90 | .... | |
| YONKERS | 34,000 | 56 | 19.76 | 29 | 51.8 | 250.00 | .... | |
| Westchester | 8,326 | 16 | 23.00 | 4 | 25.0 | 187.50 | .... | |
| Greenburgh | 11,630 | 16 | 17 00 | 3 | 18.7 | 437.50 | .... | |
| *Mount Vernon* | 15,513 | 21 | 16.25 | 7 | 33.3 | 95.24 | .... | |
| *Port Chester* | 5,274 | 13 | 27.95 | 2 | 15.4 | 77.00 | .... | |
| *Sing Sing* | 9,352 | 16 | 20.12 | 6 | 37.5 | 125.00 | .... | |
| *New Rochelle* | 8,217 | 13 | 18.85 | 9 | 69.2 | 384.50 | .... | |
| *Peekskill* | 9,676 | 13 | 16.12 | 3 | 23.0 | 153.90 | .... | |
| *White Plains* | 4,042 | 5 | 15.00 | 0 | .... | 400.00 | .... | |
| Rest of District | ..... | 214 | ..... | 56 | .... | .... | .... | |
| HUDSON VALLEY DISTRICT: Totals | .. ..... | 833 | ..... | 200 | 24.1 | 162.20 | 3 | |
| ALBANY | 98,000 | 165 | 19.13 | 59 | 23.6 | 145.45 | .. | |
| COHOES | 23,234 | 4 | ..... | 2 | .... | .... | .... | |
| TROY | 64,986 | 101 | 18 68 | 23 | 23.0 | 129.25 | .... | |
| *West Troy* | 12,967 | 18 | 16.61 | 1 | 6.6 | .... | .... | |
| *Green Island* | 4,463 | 12 | 32.00 | 5 | 41.6 | 333.33 | .... | |
| *Lansingburgh* | 10,550 | 15 | 17.00 | 2 | 13.3 | 200.00 | .... | |
| *Hoosick Falls* | 7,014 | 9 | 15.40 | 5 | 55.5 | 111.10 | .... | |
| *Greenbush* | 7,462 | 9 | 14.80 | 2 | 22.2 | 111.10 | .... | |
| Coxsackie | 3,824 | 8 | 25.44 | 1 | 12.5 | 250.00 | 1 | |
| *Catskill* | 4,920 | ..... | .. .. | .... | .... | ..... | .... | |
| HUDSON | 9,633 | 14 | 17.36 | 3 | 21.4 | ..... | .... | |
| KINGSTON | 21,500 | 27 | 15.12 | 11 | 40.1 | 259.25 | 1 | |
| *Ellenville* | 3,000 | 8 | 32.00 | 0 | .... | .... | .... | |
| Marbletown | 3,689 | 6 | 19.80 | 2 | 33.3 | 166 67 | .... | |
| Rosendale | 6,125 | 8 | 16.00 | 1 | 12.5 | 250.00 | .... | |
| Esopus | 5,035 | 9 | 21.60 | 3 | 33.3 | 222 22 | .... | |
| *Saugerties* | 4,237 | 7 | 19.95 | 2 | 28.5 | ..... | .... | |
| POUGHKEEPSIE | 23,200 | 20 | 10.34 | 5 | 25.0 | 200 00 | .... | |
| *Fishkill* | 3,617 | 2 | 6.65 | 0 | .... | .... | .... | |
| *Wappinger Falls* | 3,718 | 2 | 8 00 | 1 | 50.0 | .... | .... | |
| NEWBURGH | 24,536 | 59 | 28.90 | 14 | 23.7 | 279.00 | .... | |
| *Port Jervis* | 9,327 | 13 | 16.64 | 0 | .... | ..... | .... | |
| MIDDLETOWN | 11,612 | 12 | 13.00 | 3 | 25.0 | 250.00 | .... | |

YORK STATE BOARD OF HEALTH.

*districts, cities and towns during October*, 1893.

roman type. For boundaries of *sanitary districts*, see Annual Summary.]

| Malarial diseases. | Small-pox. | Scarlet-fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 19 | 30 | 14 | 7 | 37 | 372 | 362 | 641 | 659 | 29 | 421 | 363 | 333 | 551 | 131 | 235 | 128 | 858 |
| 7 | 9 | 15 | 11 | 6 | 19 | 214 | 199 | 380 | 386 | 19 | 220 | 224 | 174 | 275 | 84 | 151 | 60 | 552 |
| 2 | 3 | 10 | 1 | 1 | 13 | 100 | 112 | 198 | 184 | 8 | 148 | 96 | 92 | 191 | 34 | 48 | 27 | 231 |
| .. | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 2 | 1 | 1 | ... | ... | ... | 1 |
| 1 | ... | ... | ... | ... | ... | 1 | 1 | 4 | 4 | ... | 3 | ... | 2 | 4 | ... | ... | ... | 1 |
| ... | ... | 1 | 1 | ... | ... | 13 | 3 | 3 | 7 | ... | 6 | 4 | 4 | 9 | ... | 3 | 3 | 13 |
| ... | ... | ... | 1 | ... | ... | 3 | 6 | 4 | 4 | ... | 1 | 2 | 2 | 7 | ... | 4 | 1 | 4 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 4 | ... | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 3 | 2 | ... | 1 | 1 | 1 | 1 | ... | 1 | 1 | 5 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | 1 | 3 | ... | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | 3 | 6 | 2 | ... | 1 | 3 | 3 | 3 | 1 | ... | ... | 6 |
| ... | ... | ... | ... | ... | 1 | 1 | 3 | 2 | 6 | ... | 1 | 1 | 5 | 1 | ... | ... | ... | 4 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | 1 | ... | ... | ... | ... |
| 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 2 | ... | ... | ... | ... | 1 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | 1 | ... | 1 | 1 | 1 | ... | 2 | 2 |
| 1 | ... | 1 | ... | ... | ... | 8 | 2 | 2 | 5 | ... | 4 | 5 | 3 | 3 | ... | 1 | 1 | 1 |
| ... | ... | 1 | ... | ... | ... | 1 | 3 | 3 | 3 | ... | 2 | ... | 1 | 2 | 1 | ... | ... | 2 |
| ... | ... | ... | ... | ... | ... | 2 | ... | 2 | 1 | ... | ... | ... | 2 | 1 | ... | 1 | ... | 3 |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | 3 | ... | ... | 1 | 1 | 2 | ... | 1 | 2 | ... |
| ... | ... | 1 | ... | ... | ... | 4 | 9 | 8 | 8 | ... | 3 | 3 | 4 | 9 | ... | 1 | 1 | 5 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | 1 | ... | 2 | 1 | 1 | 2 | ... | ... | 3 | 2 |
| 4 | ... | ... | ... | ... | ... | 3 | ... | 1 | 1 | ... | 1 | ... | 1 | 1 | ... | 1 | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | 2 | 2 | 2 | ... | 1 | 1 | 2 | 3 | 1 | 2 | 1 | 4 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 2 | ... | 1 | 4 | 1 | ... | ... | ... | 1 | 2 |
| 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | 2 | ... | 1 | 1 | 3 | 2 | ... | 1 | 2 | 2 |
| ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 2 | 1 | ... | 1 | ... | ... | ... | 4 |
| ... | ... | ... | ... | ... | ... | 2 | ... | 2 | 1 | ... | ... | 1 | ... | 2 | ... | ... | 2 | 3 |
| 2 | 7 | 1 | ... | ... | 4 | 2 | 10 | 16 | 28 | 1 | 14 | 9 | 23 | 24 | 6 | 6 | 16 | 32 |
| 9 | .. | 5 | .. | 3 | 12 | 50 | 26 | 84 | 97 | 8 | 85 | 47 | 64 | 108 | 26 | 45 | 55 | 79 |
| ... | ... | ... | ... | ... | 4 | 14 | 1 | 21 | 17 | .... | 15 | 9 | 22 | 24 | 4 | 9 | 3 | 17 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... |
| ... | ... | 3 | ... | ... | 3 | 2 | 1 | 20 | 12 | 1 | 7 | 6 | 7 | 14 | 3 | 4 | 5 | 9 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | 5 | ... | 4 | 2 | 1 | 1 | 1 | 1 | 1 | ... |
| ... | ... | ... | ... | ... | 1 | ... | 3 | 1 | 2 | ... | 1 | 1 | ... | 1 | ... | 2 | ... | ... |
| ... | ... | ... | ... | ... | ... | 2 | ... | 3 | 4 | ... | ... | ... | ... | 1 | ... | 1 | 2 | 1 |
| ... | ... | ... | ... | 1 | ... | ... | ... | 3 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | 3 |
| 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 2 | 1 | ... | ... | 1 | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 6 | 2 | ... | 1 | ... | 3 | 1 | ... |
| 1 | ... | ... | ... | ... | ... | 2 | 1 | 2 | 1 | 1 | 4 | 1 | 5 | 2 | ... | 2 | 2 | ... |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. | 2 | ... | ... | 1 | ... | ... | 3 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | 2 |
| 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | 2 | ... | ... | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | 1 | 2 | ... | ... |
| 2 | ... | ... | ... | ... | ... | 1 | 1 | 2 | 3 | ... | 2 | 1 | 2 | 2 | ... | 3 | ... | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 |
| ... | ... | 2 | ... | ... | 1 | 8 | 2 | 3 | 14 | 1 | 4 | 6 | 1 | 2 | ... | 1 | 4 | 6 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | 3 | 1 | 2 | 4 | ... |
| ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 2 | ... | 1 | ... | ... | 5 | ... | ... | 1 | ... |

MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths and causes in the following*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| MARITIME DISTRICT: Totals | ..... | 5,348 | .. .. | 2,143 | 40.0 | 188.75 | 37 | 101 |
| NEW YORK CITY | 1,860,803 | 3,069 | 19.40 | 1,226 | 40.0 | 187.00 | 24 | 79 |
| BROOKLYN | 978,394 | 1,541 | 18.50 | 650 | 42.2 | 184.42 | 10 | 22 |
| Gravesend | 8,418 | 6 | 10.00 | 4 | 66.6 | 166.67 | ... | ... |
| New Utrecht | 9,129 | 22 | 28.93 | 8 | 36.4 | 181.80 | 1 | ... |
| LONG ISLAND CITY | 35,745 | 73 | 24.50 | 41 | 56.1 | 291.65 | 2 | 1 |
| Newtown | 19,776 | 40 | 24.00 | 22 | 55.0 | 275.00 | ... | 1 |
| Oyster Bay | 14,887 | 23 | 18.50 | 3 | 13.0 | 43.40 | ... | ... |
| Hempstead | 23,991 | 17 | 8.50 | 8 | 47.0 | 60.00 | ... | ... |
| North Hempstead | 8,726 | 9 | 12.42 | 3 | 33.3 | ... .. | ... | ... |
| Jamaica | 17,654 | 31 | 19.72 | 16 | 49.0 | 137.20 | ... | ... |
| Flushing | 20,816 | 25 | 14 50 | 8 | 32.0 | 220.00 | ... | 2 |
| Southhold | 7,671 | 7 | 11.00 | 1 | 14.3 | ... | ... | ... |
| *Sag Harbor* | 3,000 | 4 | 16.00 | 0 | ... | ... | ... | ... |
| Huntington | 8,253 | 8 | 10.00 | 1 | 12 5 | 125.00 | ... | ... |
| Brookhaven | 13,493 | 10 | 10.00 | 3 | 30.0 | 200.00 | ... | ... |
| *New Brighton* | 16,423 | 37 | 27.00 | 11 | 29.5 | 324.32 | ... | ... |
| *Edgewater* | 14,265 | 20 | 16.80 | 10 | 50.0 | 300.00 | ... | 1 |
| *Port Richmond* | 6,390 | 12 | 22.50 | 7 | 58.3 | 166.67 | ... | ... |
| Westfield | 8,648 | 11 | 15.30 | 2 | 19.2 | 90.90 | ... | ... |
| YONKERS | 34,000 | 56 | 19.76 | 29 | 51.8 | 250.00 | ... | ... |
| Westchester | 8,326 | 16 | 23.00 | 4 | 25.0 | 187.50 | ... | ... |
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| *Port Chester* | 5,274 | 13 | 27.95 | 2 | 15.4 | 77.00 | ... | ... |
| *Sing Sing* | 9,352 | 16 | 20.12 | 6 | 37.5 | 125.00 | ... | ... |
| *New Rochelle* | 8,217 | 13 | 18.85 | 9 | 69.2 | 384.50 | ... | 1 |
| *Peekskill* | 9,676 | 13 | 16.12 | 3 | 23.0 | 153.90 | ... | ... |
| *White Plains* | 4,042 | 5 | 15.00 | 0 | ... | 400.00 | ... | ... |
| Rest of District | ..... | 214 | ..... | 56 | ... | ... | ... | 2 |
| HUDSON VALLEY DISTRICT: Totals | .. ..... | 833 | ..... | 200 | 24.1 | 162.20 | 3 | 27 |
| ALBANY | 98,000 | 165 | 19.13 | 59 | 23.6 | 145.45 | ... | 5 |
| COHOES | 23,234 | 4 | ..... | 2 | ... | ... | ... | ... |
| TROY | 64,986 | 101 | 18 68 | 23 | 23.0 | 129.25 | ... | 4 |
| *West Troy* | 12,967 | 18 | 16.61 | 1 | 6.6 | ... | ... | ... |
| *Green Island* | 4,463 | 12 | 32.00 | 5 | 41.6 | 333.33 | ... | ... |
| *Lansingburgh* | 10,550 | 15 | 17.00 | 2 | 13.3 | 200.00 | ... | 1 |
| *Hoosick Falls* | 7,014 | 9 | 15.40 | 5 | 55.5 | 111.10 | ... | ... |
| *Greenbush* | 7,462 | 9 | 14.80 | 2 | 22.2 | 111.10 | ... | ... |
| Coxsackie | 3,824 | 8 | 25.44 | 1 | 12.5 | 250.00 | 1 | ... |
| *Catskill* | 4,920 | ..... | ... .. | ... | ..... | ..... | ... | ... |
| HUDSON | 9,633 | 14 | 17.36 | 3 | 21.4 | ..... | ... | ... |
| KINGSTON | 21,500 | 27 | 15.12 | 11 | 40.1 | 259.25 | 1 | 2 |
| *Ellenville* | 3,000 | 8 | 32.00 | 0 | .... | ... .. | ... | ... |
| Marbletown | 3,689 | 6 | 19.80 | 2 | 33.3 | 166 67 | ... | 1 |
| Rosendale | 6,125 | 8 | 16.00 | 1 | 12.5 | 250.00 | ... | 1 |
| Esopus | 5,035 | 9 | 21.60 | 3 | 33.3 | 222 22 | ... | ... |
| *Saugerties* | 4,237 | 7 | 19.95 | 2 | 28.5 | ..... | ... | ... |
| POUGHKEEPSIE | 23,200 | 20 | 10.34 | 5 | 25.0 | 200 00 | ... | ... |
| *Fishkill* | 3,617 | 2 | 6.65 | 0 | .... | ... .. | ... | ... |
| *Wappinger Falls* | 3,718 | 2 | 8 00 | 1 | 50.0 | ..... | ... | ... |
| NEWBURGH | 24,536 | 59 | 28.90 | 14 | 23.7 | 279.00 | ... | 4 |
| *Port Jervis* | 9,327 | 13 | 16.64 | 0 | ... | ..... | ... | ... |
| MIDDLETOWN | 11,612 | 12 | 13.00 | 3 | 25.0 | 250.00 | ... | ... |

YORK STATE BOARD OF HEALTH.

*districts, cities and towns during October*, 1893.

roman type. For boundaries of *sanitary districts*, see Annual Summary.]

| Malarial diseases. | Small-pox. | Scarlet-fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 19 | 30 | 14 | 7 | 37 | 372 | 362 | 641 | 659 | 29 | 421 | 363 | 333 | 551 | 131 | 295 | 128 | 858 |
| 7 | 9 | 15 | 11 | 6 | 19 | 214 | 109 | 380 | 386 | 19 | 220 | 224 | 174 | 275 | 84 | 151 | 60 | 522 |
| 2 | 3 | 10 | 1 | 1 | 13 | 100 | 112 | 198 | 184 | 8 | 148 | 96 | 92 | 191 | 34 | 48 | 27 | 231 |
| .. | ... | ... | ... | ... | ... | .. | 1 | ... | ... | ... | ... | 2 | 1 | 1 | ... | ... | .. | 1 |
| 1 | ... | ... | ... | ... | .. | 1 | 1 | 4 | 4 | ... | 3 | ... | 2 | 4 | ... | .. | .. | 1 |
| ... | ... | 1 | 1 | ... | ... | 13 | 3 | 3 | 7 | .. | 6 | 4 | 4 | 9 | ... | 3 | 3 | 13 |
| ... | ... | ... | 1 | ... | .. | 3 | 6 | 4 | 4 | ... | 1 | 2 | 2 | 7 | ... | 4 | 1 | 4 |
| ... | ... | ... | ... | ... | ... | . | 1 | 1 | 4 | ... | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 3 | 2 | ... | 1 | 1 | 1 | 1 | ... | 1 | 1 | 5 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | 1 | 3 | ... | ... | 1 | ... | 1 |
| ... | ... | ... | ... | ... | 1 | 1 | 3 | 2 | 6 | ... | 1 | 3 | 3 | 3 | 1 | ... | ... | 6 |
| ... | ... | ... | ... | ... | 1 | 1 | 3 | 2 | 6 | ... | 1 | 1 | 5 | 1 | ... | ... | ... | 4 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | 1 | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | .. | ... | ... | 1 | 1 | .. | 2 | ... | ... | ... | ... | ... | ... | .. |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | 1 | 1 | ... | ... | 2 | 2 |
| 1 | ... | 1 | ... | ... | ... | 8 | 2 | 2 | 5 | .. | 4 | 5 | 3 | 3 | ... | 1 | 1 | 1 |
| ... | ... | 1 | ... | ... | ... | 1 | 3 | 2 | 3 | ... | 2 | ... | 1 | 3 | ... | ... | ... | 2 |
| ... | ... | ... | ... | ... | ... | 2 | ... | 2 | 1 | ... | ... | ... | 2 | 1 | ... | 1 | .. | 3 |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | 3 | ... | ... | 1 | 1 | 2 | ... | 1 | 2 | ... |
| ... | ... | 1 | ... | ... | ... | 4 | 9 | 8 | 8 | ... | 3 | 3 | 4 | 2 | ... | 1 | 1 | 5 |
| ... | ... | ... | ... | ... | ... | ... | 3 | ... | 1 | ... | 2 | 1 | 1 | 2 | ... | ... | 3 | 2 |
| 4 | ... | ... | ... | ... | ... | 3 | ... | 1 | 1 | ... | 1 | ... | 1 | 1 | ... | 1 | 2 | 1 |
| ... | .. | ... | ... | ... | ... | ... | 2 | 1 | 2 | ... | 1 | 1 | 2 | 3 | ... | 2 | 1 | 4 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 2 | ... | 1 | 4 | 1 | ... | ... | ... | 1 | 2 |
| 2 | ... | ... | ... | ... | .. | 1 | 1 | .... | 2 | ... | 1 | 1 | 3 | 2 | ... | 1 | 2 | 2 |
| ... | ... | ... | ... | ... | ... | 2 | ... | .. | ... | ... | 2 | 1 | .... | 1 | ... | ... | ... | 4 |
| ... | ... | .. | ... | ... | ... | 2 | .... | 2 | 1 | .... | ... | 1 | .... | 2 | ... | .. | 2 | 3 |
| ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| 2 | 7 | 1 | .... | ... | 4 | 12 | 10 | 16 | 28 | 1 | 14 | 9 | 23 | 24 | 6 | 6 | 16 | 32 |
| 9 | .. | 5 | .. | 3 | 12 | 50 | 26 | 84 | 97 | 8 | 85 | 47 | 64 | 108 | 26 | 45 | 55 | 79 |
| ... | ... | ... | ... | ... | 4 | 14 | 1 | 21 | 17 | .... | 15 | 9 | 22 | 24 | ... | 9 | 3 | 17 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... |
| ... | ... | 3 | ... | ... | 3 | 2 | 1 | 20 | 12 | 1 | 7 | 6 | 7 | 14 | 3 | 4 | 5 | 9 |
| ... | ... | ... | ... | ... | 1 | ... | ... | 2 | 5 | ... | 4 | 2 | 1 | 1 | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | 3 | 1 | 2 | ... | 1 | 1 | ... | 1 | ... | 2 | ... | ... |
| ... | ... | ... | ... | ... | ... | 2 | ... | 3 | 4 | ... | ... | ... | ... | 1 | ... | ... | 2 | 1 |
| ... | ... | ... | ... | 1 | ... | ... | ... | 3 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | 3 |
| 1 | ... | ... | ... | ... | ... | ... | .. | 1 | 2 | ... | 2 | 1 | ... | ... | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 1 | ... | ... | ... | ... | ... | 2 | 1 | 2 | 1 | 1 | 6 | 2 | ... | 1 | ... | 3 | 1 | ... |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. | 4 | 1 | 5 | 2 | ... | 2 | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | ... | ... | 3 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 2 | ... | ... | ... | 1 | 1 |
| 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | 1 | ... | 1 | ... | 2 | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | 2 | ... | ... | 2 |
| 2 | ... | ... | ... | ... | ... | 1 | 1 | 2 | 3 | ... | 2 | 1 | 2 | 2 | ... | 3 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 |
| ... | ... | 2 | ... | ... | 1 | 8 | 2 | 3 | 14 | 1 | 4 | 6 | 1 | 2 | ... | 1 | 4 | 6 |
| ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 1 | ... | 1 | 1 | ... | 3 | 1 | 2 | 4 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | 5 | ... | ... | 1 | ... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| HUDSON VAL. DIST.—(*Continued*). | | | | | | | | |
| Warwick | 6,000 | 5 | 10.00 | 3 | 60.0 | 200.00 | ... | 1 |
| Goshen | 4,646 | 8 | 20.64 | 2 | 25.0 | 125.00 | ... | ... |
| Montgomery | 5,259 | 7 | 16.00 | 2 | 28.5 | 285.70 | ... | ... |
| Haverstraw | 7,714 | 17 | 26.52 | 12 | 70.6 | 352.85 | ... | ... |
| *Nyack* | 5,603 | 4 | 10.00 | 1 | 25.0 | 250.00 | ... | ... |
| Ramapo | 6,000 | 5 | 10.00 | 1 | 70.0 | 200.00 | ... | ... |
| Rest of District | ..... | 259 | ..... | 52 | .... | ..... | 1 | 7 |
| ADIRONDACK AND NORTHERN DISTRICT: | | | | | | | | |
| Totals | ..... | 276 | .. .. | 60 | 21.6 | 188.40 | 1 | 9 |
| WATERTOWN | 16,982 | 39 | 27.30 | 7 | 18.0 | 282.0 | ... | 1 |
| Ellisburgh | 4,223 | 2 | 6.00 | 1 | 50.0 | ..... | ... | ... |
| Cape Vincent | 3,000 | 2 | 8.00 | 0 | .... | ..... | ... | ... |
| Clayton | 4,250 | 3 | 8.50 | 0 | .... | ..... | ... | ... |
| OGDENSBURG | 11,959 | 14 | 14.20 | 3 | 21.4 | ..... | ... | ... |
| Gouverneur | 5,921 | 9 | 18.24 | 2 | 22.2 | 222.22 | ... | 1 |
| *Potsdam* | 4,000 | 3 | 9.00 | 1 | 33.3 | 333.33 | ... | 1 |
| Canton | 6,013 | 7 | 14.00 | 3 | 42.0 | 285.70 | ... | ... |
| *Malone* | 5,000 | 4 | 10.00 | 2 | 50.0 | 500.00 | ... | 1 |
| *Plattsburgh* | 7,010 | 5 | 8.60 | 0 | .... | ..... | ... | ... |
| *Glens Falls* | 9,509 | 11 | 13.86 | 1 | 9.0 | 272.72 | ... | ... |
| *Whitehall* | 4,434 | 3 | 8.13 | 0 | .... | ..... | ... | ... |
| Fort Edward | 4,382 | 9 | 24.57 | 3 | 33.3 | 333.33 | ... | ... |
| Kingsbury | 5,112 | 1 | .... | 0 | .... | .... | ... | ... |
| Granville | 5,281 | 3 | 7.10 | 2 | 66.6 | ..... | ... | ... |
| Salem | 3,167 | 2 | 8.00 | 0 | .... | ..... | ... | ... |
| Greenwich | 4,431 | 3 | 8.50 | 0 | .... | ..... | ... | ... |
| Rest of District | ..... | 156 | ..... | 35 | .... | ... .. | 1 | 5 |
| MOHAWK VALLEY DISTRICT: | | | | | | | | |
| Totals | ..... .... | 423 | ..... | 82 | 19.8 | 150.12 | 1 | 15 |
| SCHENECTADY | 22,858 | 27 | 14.20 | 10 | 37.0 | 222.22 | ... | 1 |
| Cobleskill | 3,436 | 7 | 24.50 | 0 | .... | ..... | ... | ... |
| AMSTERDAM | 18,542 | 17 | 12.00 | 3 | 17.5 | 117.50 | ... | 1 |
| *Fort Plain* | 3,000 | 5 | 20.00 | 1 | 20.0 | ... .. | ... | ... |
| *Johnstown* | 7,768 | 9 | 13.86 | 3 | 33.3 | 444.44 | ... | 2 |
| GLOVERSVILLE | 14,694 | 14 | 11.00 | 1 | 7.1 | ..... | ... | ... |
| *Little Falls* | 8,783 | 12 | 16.40 | 4 | 33.3 | 250.00 | ... | ... |
| *Herkimer* | 3,000 | 3 | 12.00 | 0 | .... | ..... | ... | ... |
| *Ilion* | 4,057 | 13 | .... | 2 | 15.3 | 461.50 | ... | 1 |
| UTICA | 46,608 | 68 | 17.54 | 15 | 22.0 | 132.35 | ... | 1 |
| Whitestown | 5,225 | 4 | 10.00 | 1 | 25.0 | .... | ... | ... |
| ROME | 13,638 | 15 | 13.28 | 2 | 13.3 | 66.66 | ... | ... |
| Boonville | 3,512 | 1 | .... | 1 | .... | ..... | ... | ... |
| Camden | 3,675 | 5 | 16.32 | 2 | 40.0 | 200.00 | ... | ... |
| Waterford | 5,522 | 8 | 17.36 | 4 | 50.0 | 125.00 | ... | ... |
| *Ballston Spa* | 3,527 | 7 | 23.80 | 0 | .... | ..... | ... | ... |
| *Saratoga Springs* | 12,000 | 9 | 9.00 | 0 | .... | 111.11 | ... | 1 |
| Rest of District | ... .. ... | 199 | ... | 33 | 15.0 | 145.00 | 1 | 9 |
| SOUTHERN TIER DISTRICT: | | | | | | | | |
| Totals | ... ... | 368 | ..... | 70 | 19.0 | 190.00 | 2 | 16 |
| BINGHAMTON | 34,514 | 42 | 14.60 | 11 | 26.2 | 285.70 | ... | 1 |
| *Owego* | 6,000 | 10 | 20.00 | 0 | .... | ..... | ... | ... |
| Candor | 3,525 | 5 | 17.00 | 0 | .... | 200.00 | ... | ... |
| *Waverly* | 4,123 | 3 | 8.58 | 0 | .... | ..... | ... | ... |
| ELMIRA | 30,000 | 32 | 12.80 | 5 | 15.6 | 125.00 | ... | 1 |

FOR OCTOBER, 1893 — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | | | 2 | 1 | 1 | 2 | | | | | 1 | | 1 |
| | | | | | | 2 | | | | | 1 | 2 | | 2 | | | 1 | 2 |
| | | | | | | 6 | | | | | 1 | | | 3 | 1 | | | 6 |
| | | | | | | 1 | | | 2 | | | | | | | | | 1 |
| | | | | | | | 1 | | 2 | | | | | | 2 | | | |
| 3 | | | | 2 | 2 | 10 | 12 | 20 | 25 | 3 | 29 | 11 | 20 | 41 | 10 | 14 | 26 | 23 |
| 3 | | 7 | | 2 | 1 | 19 | 10 | 12 | 19 | 1 | 30 | 14 | 26 | 38 | 17 | 16 | 22 | 29 |
| | | | | 1 | | 6 | 3 | 1 | 3 | | 7 | 2 | 1 | 7 | 2 | 1 | 2 | 2 |
| | | | | | | | | | | | | | | 1 | | | 1 | |
| | | | | | | | | | | | | | | | | | 1 | 1 |
| | | | | | | | | | | | | | | | | | | 3 |
| | | | | | | | | 2 | 3 | | 2 | | 2 | | 2 | 1 | 1 | 1 |
| | | | | | | | 1 | | | | 1 | | 3 | 1 | 1 | | 1 | |
| | | | | | | | | | | | 1 | | | | | | | 1 |
| | | | | | | | 2 | 1 | 1 | | | | | 2 | | | 1 | |
| | | | | | | | 1 | | 1 | | | | | | | | | 1 |
| | | | | | | | | | | | 1 | | 1 | | 1 | 2 | | |
| 1 | | | | | | 2 | | 2 | 2 | | | | 2 | 2 | | | | |
| | | | | | | | 2 | | | | 1 | 1 | 1 | 1 | | 1 | | 2 |
| | | | | | | | | | | | | | 1 | | | | | |
| | | | | | | | | | | | 2 | | | 1 | | | | |
| | | | | | | | | | | | | | | 1 | | | | 1 |
| | | | | | | | | | 1 | | | | | 1 | 1 | | | |
| 2 | | 7 | | 1 | 1 | 10 | 1 | 6 | 8 | 1 | 15 | 12 | 16 | 21 | 10 | 13 | 12 | 17 |
| 3 | | 4 | | | 1 | 25 | 13 | 42 | 54 | 5 | 43 | 22 | 54 | 52 | 11 | 19 | 30 | 28 |
| | | 2 | | | | 1 | 2 | 3 | 3 | | 1 | 1 | 2 | 5 | | 3 | 2 | 1 |
| | | | | | | | | 2 | | | | | 1 | | 1 | 1 | 1 | 1 |
| | | | | | | | 1 | 1 | 3 | | 4 | | 2 | 2 | | 1 | 2 | |
| | | | | | | | | | | | | 1 | 1 | 1 | | 1 | | 1 |
| | | | | | | 2 | | 1 | | | 1 | | 2 | 1 | | | | |
| | | | | | | | | | 2 | 1 | 1 | 2 | 4 | 1 | 1 | | 2 | |
| 1 | | | | | | 2 | | 1 | 1 | | 1 | | | 1 | | | 1 | 4 |
| | | | | | | | | | 3 | | | | | | | | | |
| | | | | | | 5 | | 1 | | | 1 | | 1 | 1 | | | 3 | |
| | | | | | | 8 | | 8 | 11 | 1 | 8 | 3 | 8 | 13 | 1 | 2 | 1 | 3 |
| | | | | | | | | 1 | | | 1 | | 1 | | | | 1 | |
| 1 | | | | | | | | 4 | 2 | 1 | 1 | 1 | | 2 | | | 1 | 2 |
| | | | | | | | | 1 | | | | | | | | | | |
| | | | | | | 1 | | 1 | | | 2 | | | 1 | | | | |
| | | | | | | | 1 | | | | 1 | | 1 | 2 | 1 | | | 2 |
| | | | | | | | | 1 | 2 | | 1 | 1 | 1 | | 1 | | | |
| 1 | | 2 | | | 1 | 6 | 2 | 17 | 25 | 2 | 19 | 12 | 27 | 22 | 6 | 10 | 16 | 14 |
| | | 3 | | 1 | 1 | 29 | 18 | 25 | 33 | 2 | 40 | 12 | 39 | 42 | 17 | 19 | 31 | 38 |
| | | | | | | 4 | 3 | 4 | 8 | | 5 | 1 | 2 | 4 | 1 | 1 | 2 | 2 |
| | | | | | | | | | 2 | | | 1 | 2 | 1 | 1 | | 2 | 1 |
| | | | | | | 1 | | | | | | | | 1 | 1 | | 1 | 1 |
| | | | | | | | | | | | | | | 1 | 1 | 1 | | |
| | | | | | 1 | 1 | 1 | 4 | 2 | | 5 | 1 | 3 | 2 | 3 | 3 | 3 | 2 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| SOUTHERN TIER DIST.— (*Con'd*): | | | | | | | | |
| Horseheads | 3,319 | 6 | 21.66 | 2 | 33.3 | 166.67 | .. | .... |
| HORNELLSVILLE | 11,898 | 10 | 11.00 | 1 | 10.0 | 100.00 | ... | 1 |
| *Bath* | 3,261 | 4 | 14.72 | 0 | .... | ..... | ... | ... |
| CORNING | 10,025 | 15 | 18.00 | 4 | 26.7 | 400.00 | ... | 2 |
| Wellsville | 5,033 | 5 | 12.00 | 2 | 40.0 | 200.00 | ... | .. |
| OLEAN | 7,358 | 14 | 22.83 | 3 | 21.4 | 428.50 | ... | 1 |
| *Salamanca* | 3,700 | 4 | 13.00 | 2 | 50.0 | 250.00 | .. | .... |
| JAMESTOWN | 16,627 | 30 | 19.32 | 7 | 23.3 | 400.00 | 2 | .... |
| *Westfield* | 3,000 | 1 | 4.00 | 0 | .... | ..... | .... | ... |
| *Fredonia* | 3,400 | 6 | 21.18 | 1 | 16.7 | ..... | ... | .... |
| Rest of District | ... | 181 | 139.00 | 32 | 17.7 | 139.00 | .. | 6 |
| EAST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ..... | 450 | ..... | 90 | 20.3 | 191.65 | 3 | 19 |
| SYRACUSE | 91,944 | 153 | 19 96 | 40 | 26.2 | 241.83 | 2 | 5 |
| *Baldwinsville* | 3,040 | 2 | 8.00 | 0 | .... | ..... | ... | .... |
| De Witt | 5,182 | 8 | 18.50 | 1 | 12 5 | 500.00 | .. | .. |
| *Cortland* | 8,590 | 10 | 14 00 | 3 | 30 0 | ..... | ... | .... |
| *Homer* | 3,000 | 3 | 12.00 | 0 | .... | 333.33 | .. | .. |
| *Oneida* | 6,083 | 5 | 10.00 | 1 | 20 0 | .... | ... | ... |
| Hamilton | 4,110 | 6 | 18.00 | 1 | 16 7 | 166.67 | ... | .. |
| Cazenovia | 3,803 | 1 | ..... | 0 | .... | .... | ... | ... |
| Brookfield | 3,235 | 2 | 8.00 | 0 | ... | ..... | .. | .... |
| *Norwich* | 5,212 | 9 | 19 50 | 1 | 12.5 | ..... | ... | 1 |
| *Oneonta* | 6,776 | 3 | .. | 0 | ... | .... | ... | .... |
| Worcester | 2,670 | 3 | 13.50 | 0 | ... | ..... | ... | ... |
| *Cooperstown* | 3,000 | 6 | 24.00 | 2 | 33.3 | 333 33 | .. | 2 |
| Walton | 4,811 | 7 | 17.50 | 1 | 14.3 | 285.70 | ... | ... |
| Delhi | 3,000 | 3 | 12.00 | 0 | ... | ..... | .. | .... |
| Liberty | 3,471 | 3 | 11.00 | 2 | 60 0 | ..... | ... | ... |
| Rest of District | ..... | 226 | ..... | 38 | 16.8 | 170.00 | 1 | 11 |
| WEST CENTRAL DISTRICT: | | | | | | | | |
| Totals | ..... | 282 | ..... | 37 | 13.2 | ..... | 1 | 11 |
| AUBURN | 24,737 | 41 | 19.68 | 5 | 12.2 | 268.29 | ... | 1 |
| ITHACA | 13,460 | 10 | 10 00 | 2 | 20.0 | 200.00 | .. | 1 |
| Hector | 4,832 | 6 | 15.00 | 0 | ... | ..... | ... | .... |
| *Waterloo* | 4,350 | 6 | 16.56 | 1 | 16.7 | 666.66 | .. | .... |
| *Seneca Falls* | 6,116 | 7 | 13.75 | 0 | .. | .... | ... | .... |
| *Geneva* | 7,557 | 4 | ..... | 0 | .... | ..... | ... | .. |
| *Canandaigua* | 5,868 | 10 | 20.40 | 0 | ... | 100.00 | .... | ... |
| Manchester | 4,181 | 7 | 18.00 | 1 | 16.7 | 166.67 | ..... | 1 |
| Phelps | 5,150 | 5 | 12.00 | 0 | ... | 200.00 | ... | 1 |
| *Penn Yan* | 4,254 | 5 | 14.10 | 1 | 20.0 | ..... | ... | ... |
| *Batavia* | 7,221 | 9 | 15.60 | 2 | 22.0 | 444 45 | 1 | 2 |
| *Dansville* | 3,758 | 4 | 12.75 | 1 | 25 0 | 500.00 | .. | .... |
| *Le Roy* | 3,000 | 3 | 12.00 | 0 | .... | ..... | ... | ... |
| Warsaw | 4,700 | 3 | 7.65 | 1 | 33.3 | 333.33 | ... | ... |
| Rest of District | ..... | 162 | ... | 23 | 13.7 | 125.00 | ..... | 5 |
| LAKE ONTARIO & WEST. DIST.: | | | | | | | | |
| Totals | ..... | 1,001 | ..... | 312 | 31.1 | 197 80 | 9 | 54 |
| BUFFALO | 300,000 | 480 | 14.50 | 188 | 39.2 | 220.83 | 4 | 23 |
| TONAWANDA | 7,145 | 9 | 15.12 | 2 | 22.2 | 333.33 | .... | 1 |
| Amherst | 3,960 | 5 | 15.00 | 0 | .... | 200 00 | ... | 1 |
| *North Tonawanda* | 4,800 | 12 | 28.50 | 6 | 50 0 | 250.00 | ..... | . |
| LOCKPORT | 16,088 | 12 | ..... | 1 | 8.5 | 166.60 | ..... | ... |
| NIAGARA FALLS | 5,502 | 21 | ..... | 6 | 28.5 | 95.25 | .... | ... |
| *Medina* | 4,500 | 6 | 16 00 | 1 | 16.7 | 333.33 | .. | 2 |

FOR OCTOBER — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | | .. | ... | ... | ... | .. | 1 | ..... | 2 | .... | 2 | .... | 1 | 1 | ... | 2 | .... | 1 |
| ... | | .. | ... | ... | ... | .. | ... | 2 | 2 | .... | 1 | 1 | ..... | ..... | ... | ... | 1 | ... |
| ... | | .. | ... | ... | ... | 2 | 2 | 1 | 1 | ... | 1 | ... | 1 | ..... | ... | 1 | ... | 2 |
| ... | | .. | ... | ... | ..... | 1 | ..... | ..... | 1 | ... | ..... | 1 | 2 | ..... | ... | ..... | ..... | 2 |
| ... | | 2 | ... | ... | | 3 | ..... | ..... | 2 | .... | 1 | 1 | ..... | 1 | ... | ..... | ..... | 3 |
| ... | | .. | ... | 1 | | ..... | ..... | 1 | ..... | .... | ..... | ..... | 1 | 1 | ... | ..... | ..... | ... |
| ... | | .. | ... | ... | | 9 | 1 | 4 | 1 | .. | 3 | 1 | 2 | 1 | 1 | ... | 1 | 4 |
| ... | | .. | ... | .... | | ..... | ..... | ..... | ..... | .... | ..... | ..... | ..... | ..... | ... | ... | 1 | ... |
| ... | | 1 | ... | .. | | 8 | 10 | 9 | 12 | 2 | 22 | 5 | 24 | 28 | 8 | 11 | 3 | 1 |
| 2 | | 1 | .. | 1 | | 43 | 17 | 34 | 63 | 2 | 42 | 20 | 36 | 50 | 15 | 25 | 16 | 19 |
| 1 | | 1 | .... | .. | | 22 | 6 | 16 | 29 | 1 | 10 | 5 | 11 | 11 | 2 | 7 | 38 | 38 |
| ... | | .... | ... | .. | | 4 | ..... | ..... | ... | 1 | 1 | ... | 1 | 1 | ... | ... | 11 | 13 |
| ... | | .... | ... | ... | | ... | ..... | 1 | 1 | ... | 2 | ... | 2 | 1 | .... | 1 | ... | 2 |
| ... | | .... | ... | ... | | 1 | ..... | ..... | 2 | .... | 1 | .... | ..... | 2 | .... | 1 | .... | 1 |
| ... | | .... | ... | .. | | 1 | ..... | ..... | 2 | .... | ..... | .... | ..... | ..... | ... | 1 | .... | .... |
| ... | | .... | ... | .. | | .... | ..... | 1 | ... | .... | ..... | .... | ..... | ..... | 1 | ... | .... | .... |
| ... | | .... | ... | ... | | ... | ..... | 1 | ... | .... | 1 | 1 | 2 | 1 | .... | 1 | 1 | 1 |
| ... | | .... | ... | .... | .... | ... | ..... | ..... | 1 | .... | ..... | .... | ..... | ..... | .... | 1 | ... | 1 |
| ... | | .... | ... | ... | .... | ... | ..... | ..... | ... | .... | 1 | .... | 1 | ..... | .... | 2 | 1 | .. |
| ... | ... | .... | ... | 1 | .... | ... | 1 | 1 | ... | .... | 2 | .... | ..... | ..... | 1 | ... | ... | 2 |
| ... | ... | .... | ... | ... | .... | ... | ..... | ..... | ... | .... | ..... | 1 | ..... | ..... | 1 | ... | ... | .... |
| 1 | .... | .. | .... | | 1 | 15 | 10 | 14 | 27 | .... | 24 | 13 | 18 | 31 | 10 | 11 | 22 | 17 |
| ... | .... | 2 | .... | .. | .... | 22 | 11 | 17 | 28 | 2 | 30 | 14 | 29 | 42 | 23 | 14 | 21 | 15 |
| ... | .... | .... | .... | .... | .... | 10 | ..... | 7 | 8 | .... | 2 | 2 | ..... | 4 | 2 | | 2 | 2 |
| ... | .... | .... | .... | .... | .... | 1 | ..... | ..... | 1 | .... | 1 | 1 | ..... | 2 | 2 | | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 | .... | 2 | .... | 2 | 1 | .... | | .... | .... |
| ... | .... | .... | .... | .... | .... | 4 | ..... | ..... | .... | .... | .... | .... | 1 | 1 | .... | | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | 2 | .... | 2 | .... | .... | 2 | .... | | .... | .... |
| ... | .... | .... | .... | .... | .... | 1 | ..... | ..... | 1 | 1 | 1 | .... | 1 | 2 | .... | | 1 | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | .... | .... | 1 | 1 | ..... | ..... | 1 | | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | .... | .... | ..... | .... | ..... | 1 | .... | | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 | 1 | 1 | 1 | ..... | ..... | .... | | .... | .... |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 1 | 1 | .... | 1 | .... | 2 | 1 | .... | | .... | .... |
| ... | .... | 1 | .... | .... | .... | .... | 1 | ..... | ..... | .... | ..... | .... | 2 | ..... | .... | | .... | .... |
| ... | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... | .... | .. | .... | 1 | ..... | 1 | ... | 1 | .... |
| ... | .. | 1 | .... | .... | .... | .... | 1 | ..... | ..... | .... | 1 | .... | ..... | ..... | .... | 1 | .... | .... |
| ... | .. | 1 | .... | .... | .... | 5 | 9 | 7 | 11 | .... | 19 | 9 | 20 | 28 | 17 | 9 | 13 | 9 |
| 3 | ... | 13 | .... | 2 | 3 | 39 | 76 | 92 | 117 | 9 | 80 | 50 | 77 | 127 | 33 | 59 | 88 | 121 |
| ... | .... | 12 | ... | 1 | 3 | 18 | 49 | 48 | 48 | 5 | 31 | 26 | 23 | 66 | 9 | 37 | 9 | 68 |
| ... | .... | .... | .... | .... | .... | 1 | 1 | ..... | ..... | ... | 1 | .... | 2 | 1 | .... | | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | ..... | 2 | .... | ..... | .... | ..... | 2 | .... | | .... | .... |
| ... | .... | .... | .... | .... | .. | 1 | 2 | 1 | 1 | .... | 2 | 1 | 1 | 1 | .... | | 1 | 2 |
| ... | .... | .... | .... | .... | .... | 1 | 1 | 3 | 1 | .... | ..... | 1 | 2 | 1 | .... | | 1 | .... |
| ... | .... | .... | .... | .... | .... | 1 | 1 | 3 | 2 | .... | 3 | 3 | ..... | 1 | .... | 2 | 1 | 4 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 2 | ..... | .... | 1 | .... | ..... | 1 | .... | | .... | .... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONTARIO AND WESTERN DISTRICT — (*Continued*): | | | | | | | | |
| *Albion* | 4,536 | 6 | 15.75 | 1 | 16.7 | ... | .. | .. |
| *Brockport* | 3,742 | 4 | 12.10 | 0 | .... | | .. | .. |
| ROCHESTER | 150,000 | 181 | 14.50 | 55 | 30.5 | 183.30 | .... | 11 |
| Palmyra | 4,173 | 2 | 6 00 | 1 | 50.0 | ... | ... | .. |
| *Newark* | 3,000 | 5 | 20.00 | 0 | .... | 200 00 | .... | .. |
| Lyons | 6,127 | 4 | 8.00 | 1 | 25.0 | 250.00 | .... | .. |
| *Clyde* | 3,000 | 2 | 8.00 | 0 | .... | 500.00 | .... | 1 |
| OSWEGO | 21,966 | 34 | 18 53 | 11 | 32.3 | 59.20 | ... | 1 |
| *Fulton* | 4,214 | 6 | 17.10 | 3 | 50.0 | ..... | .... | ... |
| Richland | 3,637 | 4 | 12.75 | 0 | ... | .... | ... | .... |
| Rest of district | ..... | 208 | . . | 36 | 18.6 | 185.00 | 4 | 14 |
| Totals for the State | ..... | 8,981 | ... .. | 2,994 | 33.4 | 185 00 | 56 | 253 |
| Av'ge for Oct. for past 8 years | ..... | 7,976 | ..... | 2,592 | 31.6 | 190.00 | 32 | 225 |
| Totals for September, 1893 | ..... | 9,346 | | 3,718 | 39.8 | 248.65 | 49 | 227 |

REMARKS.— The reported mortality for the month has decreased from a daily average of 311 to rate for cities and large villages was 18.50 per 1,000 population, and of the rural parts of the State than that of last month and less than it was a year ago. The decrease applies equally to all parts 961 fewer deaths than in September, there has been an increase in mortality. The autumn increase last October; The increase has been in the Maritime and Western Districts. There were 185 more being confined to the Southern and Central Districts; its prevalence is noted in Haverstraw, prevalent than last year. *Measles* and *Whooping cough* are decreasingly prevalent and cause but Geneva early in November, the origin of which has not been satisfactorily determined. The seventeenth. The rain-fall was generally deficient, except as reported from the New York Station.

FOR OCTOBER — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .. | .. | ... | .. | | .. | ... | .... | 3 | ... | 1 | 1 | ..... | 1 | ... | .. | .. | .. |
| .. | ... | .. | ... | .. | | .. | ... | .... | 1 | ... | 1 | ... | ..... | 1 | 1 | .. | .. | .... |
| 2 | ... | .... | .. | .. | . | 11 | 9 | 16 | 25 | 3 | 12 | 7 | 13 | 19 | 9 | 9 | 9 | 26 |
| ... | ... | ... | ... | .. | . | .. | ... | .. | 1 | .. | ..... | .. | ..... | 1 | ... | .. | .. | ... |
| ... | ... | .... | ... | .. | .. | 1 | ... | .. | 2 | .. | ..... | .... | 1 | ..... | 1 | .... | ... | ... |
| ... | ... | ... | .. | .. | ... | .. | 1 | ..... | 1 | .. | 2 | .. | .. | .. | .. | .. | .. | ... |
| .. | .... | ... | ... | . | . | .... | .. | .... | | ... | 1 | ... | .. | .. | ... | ... | ... | ... |
| ... | ... | ... | ... | .. | .. | .... | 1 | 4 | 6 | 1 | 1 | 2 | 6 | 5 | 1 | 2 | .. | 4 |
| ... | .... | .... | .... | ... | .... | | ..... | 1 | ... | ... | ..... | .. | 2 | 1 | ... | .. | .. | 2 |
| .. | ... | ... | ... | .. | ... | .. | .. | 1 | ... | .... | ..... | .... | 1 | .. | .. | .. | 2 | .. |
| 1 | .... | 1 | .... | 1 | . | 5 | 11 | 14 | 24 | .... | 24 | 9 | 26 | 26 | 12 | 8 | 14 | 14 |
| 50 | 19 | 65 | 14 | 16 | 56 | 599 | 533 | 947 | 1,070 | 58 | 771 | 542 | 658 | 1,010 | 273 | 422 | 363 | 1206 |
| 92 | 6 | 84 | 29 | 14 | 70 | 527 | 430 | 720 | 1,012 | 61 | 571 | 432 | 540 | 834 | 224 | 328 | 450 | 1032 |
| 63 | 23 | 34 | 24 | 11 | 85 | 411 | 1,395 | 713 | 912 | 68 | 863 | 528 | 591 | 1,026 | 268 | 443 | 391 | 1221 |

one of 290; in the corresponding month of last year about 100 more deaths occurred. The death about 15.50, that of the entire State being about 18.00. The mortality in rural towns is much less of the State. From the principal *Zymotic diseases*, except from *Diarrhœal diseases*, which caused in *Typhoid fever* which was low last month is greater than usual, fifty more deaths occurring than deaths from *Diphtheria* than in September, and the increased prevalence over last year continues, Tivoli, Sandy Hill, Moreau and Ilion. There is a slight increase in *Scarlet fever*, but it is less few deaths. *Small-pox* is diminishing in New York and vicinity; a case of varioloid developed in temperature for the month was a little above the average of 52°; killing frosts occurred about the

## MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths and causes in the following*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Roman

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| **MARITIME DISTRICT:** | | | | | | | | |
| **Totals** | ..... | **4,893** | **17.50** | **1,631** | **33.4** | **164.75** | **29** | **76** |
| NEW YORK CITY | 1,860,803 | **2,877** | **18.60** | **1,015** | **35 3** | **175.80** | **19** | **41** |
| BROOKLYN | 978,394 | **1,350** | **16.78** | **444** | **33.0** | **144 44** | **9** | **25** |
| Gravesend | 8,418 | **10** | **14.30** | **6** | **60.0** | **200.00** | ... | ... |
| New Utrecht | 9,129 | **8** | **10.00** | **3** | **37.5** | ..... | .... | ... |
| LONG ISLAND CITY | 35,745 | **70** | **23.50** | **31** | **44.3** | **342.85** | .. | **1** |
| Newtown | 19,776 | **23** | **14 00** | **7** | **30.4** | **173.85** | .... | **1** |
| Oyster Bay | 14,887 | **10** | **8.05** | **3** | **30.0** | **100.00** | ..... | |
| Hempstead | 23,991 | **32** | **16 16** | **7** | **21.8** | **62.50** | .... | **1** |
| North Hempstead | 8,726 | **10** | **13.80** | **1** | **10.0** | ..... | .... | .... |
| Jamaica | 17,654 | **26** | **17.18** | **7** | **26.8** | **230.75** | .. | **1** |
| Flushing | 20,816 | **26** | **15.00** | **13** | **50.0** | **115.35** | .... | **1** |
| Southold | 7,671 | **6** | **10.00** | **0** | | ..... | .. | .. |
| *Sag Harbor* | 3,000 | **4** | **16 00** | **0** | .... | ..... | .... | .. |
| Huntington | 8,253 | **7** | **11 00** | **0** | .... | **285 70** | ... | ... |
| Brookhaven | 13,493 | **15** | **13.50** | **5** | **33.3** | **333 30** | .... | .. |
| *New Brighton* | 17,261 | **19** | **13 30** | **5** | **26 3** | **105.25** | ... | .. |
| *Edgewater* | 15,000 | **27** | **21.60** | **3** | **11.0** | **111 10** | ... | **1** |
| *Port Richmond* | 6,390 | **11** | **20.60** | **4** | **56.4** | **181 80** | .. | .. |
| Westfield | 8,648 | **10** | **14 00** | **0** | .... | .... | .. | .. |
| YONKERS | 34,000 | **45** | **15.88** | **15** | **33 3** | **200.00** | ... | . |
| Westchester | 8,326 | **11** | **15.85** | **2** | **18.2** | ..... | .. | .. |
| Greenburgh | 11,630 | **6** | ... | **2** | **33.0** | **333 30** | ... | **1** |
| *Mount Vernon* | 15,513 | **27** | **20 00** | **9** | **33.3** | **333 33** | ... | ... |
| *Port Chester* | 5,274 | **7** | **15.00** | **1** | **14.2** | **140 80** | .... | ... |
| *Sing Sing* | 9,352 | **9** | **12 00** | **1** | **11.0** | ..... | .. | .. |
| *New Rochelle* | 8,217 | **11** | **16 00** | **4** | **36.4** | ..... | .. | .. |
| *Peekskill* | 9,676 | **14** | **17 36** | **5** | **35.7** | **71 43** | ... | .... |
| *White Plains* | 4,042 | **9** | **26.60** | **2** | **22.2** | **222 22** | .. | .. |
| Rest of District | .... | **213** | **14.00** | **36** | **16.7** | **125.00** | **1** | **3** |
| **HUDSON VALLEY DISTRICT:** | | | | | | | | |
| **Totals** | ..... | **821** | **14.15** | **159** | **19 4** | **145 13** | **5** | **20** |
| ALBANY | 98,000 | **158** | **19 25** | **30** | **19 0** | **132 90** | **1** | **3** |
| COHOES | 22,234 | **11** | ..... | **4** | **36.4** | **121 20** | ... | .... |
| TROY | **64,986** | **94** | **17.40** | **12** | **13.5** | ..... | .. | **5** |
| *West Troy* | 12,967 | **20** | **18 46** | **6** | **30 0** | **200.00** | .. | .. |
| *Green Island* | 4,463 | **7** | **18.83** | **2** | **28.5** | **285.70** | .. | **1** |
| *Lansingburgh* | 10,550 | **19** | **21 60** | **5** | **26 3** | **157.90** | ... | **1** |
| *Hoosick Falls* | 7,014 | **3** | ..... | **1** | **33.0** | ..... | ... | .... |
| *Greenbush* | 7,462 | **13** | **21 37** | **4** | **30.6** | **153.00** | .. | .... |
| Coxsackie | 3,824 | **2** | **8.00** | **0** | .... | ..... | ... | .. |
| *Catskill* | 4,920 | **6** | **14 58** | **1** | **16 7** | **333 33** | ... | .... |
| HUDSON | 9,633 | **18** | **22 30** | **6** | **33 3** | **222 20** | **1** | .... |
| KINGSTON | 21,500 | **32** | **18.00** | **10** | **31.2** | **375 00** | **1** | .... |
| *Ellenville* | 3,000 | **5** | **20 00** | **1** | **20 0** | .... | .... | .... |
| Marbletown | 3,689 | **6** | **19.80** | **1** | **16 7** | ..... | .... | .... |
| Rosendale | 6,125 | **7** | **14.00** | **1** | **14.3** | **428.50** | .... | **1** |
| Esopus | 5,035 | **7** | **16 80** | **2** | **28.5** | **285 70** | .... | .. |
| *Saugerties* | 4,237 | **3** | **8.50** | **0** | | ..... | .. | .. |
| POUGHKEEPSIE | 23,200 | **20** | **10 34** | **3** | **15.0** | **50 00** | .... | **1** |
| *Fishkill* | 3,617 | **4** | **13.25** | **0** | .... | ..... | ... | .... |
| *Wappinger Falls* | 3,718 | **3** | **10.00** | **1** | **33 3** | ..... | .. | .. |
| NEWBURGH | 24,536 | **22** | **15.67** | **8** | **25.0** | **156.25** | .. | **1** |
| *Port Jervis* | 9,327 | **10** | **12 80** | **2** | **20.0** | **200.00** | ... | . |

YORK STATE BOARD OF HEALTH.

*districts, cities and towns during November*, 1893.

type. For boundaries of *Sanitary Districts*, see Annual Summary.]

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 27 | 27 | 50 | 7 | 28 | 440 | 108 | 822 | 633 | 35 | 309 | 343 | 336 | 451 | 126 | 340 | 139 | 649 |
| 8 | 9 | 14 | 43 | 3 | 16 | 279 | 74 | 480 | 367 | 18 | 168 | 203 | 179 | 236 | 77 | 156 | 72 | 415 |
| 8 | 2 | 12 | 7 | 3 | 7 | 104 | 18 | 249 | 180 | 13 | 109 | 103 | 92 | 134 | 32 | 51 | 33 | 159 |
| .. | .... | .... | .... | .... | 1 | .... | 1 | 2 | 2 | .. | .... | .... | 1 | .... | .. | 3 | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .. | .... | .... | .... | 1 | .. | .. | 2 | 4 |
| 1 | .... | .... | .... | .... | .... | 18 | 4 | 14 | 5 | .. | 2 | 4 | 2 | 6 | .. | 3 | 1 | 9 |
| .. | .... | .... | .... | .... | .... | 2 | 1 | 5 | 2 | 1 | .. | 2 | 2 | 2 | .. | .. | 2 | 3 |
| .. | .... | .... | .... | .... | .... | 1 | .. | .... | 2 | .... | .... | .... | 4 | 1 | .. | .. | .... | 2 |
| .. | .... | .... | .... | .... | 1 | .... | .... | 4 | 5 | .. | 2 | 1 | 6 | 5 | .. | 3 | 2 | 2 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 1 | .. | 3 | .. | .. | 2 | .. | 1 |
| .. | .... | .... | .... | .... | .... | 4 | 1 | 3 | 4 | 1 | .... | 1 | 3 | 3 | 1 | 1 | .. | 3 |
| .. | .... | .... | .... | .... | 1 | 1 | .... | 4 | 3 | .. | 1 | 1 | 1 | 5 | .. | 1 | 1 | 6 |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | 1 | .. | .... | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .. | 1 | .. | .. | .. | .... | 1 |
| .. | .... | 1 | .... | .... | 1 | 2 | 1 | 4 | 2 | .. | 1 | 1 | .. | 1 | .. | .. | 3 | 2 |
| .. | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 1 | .. | .... | 2 | .. | .. | .... | .... |
| .. | .... | .... | .... | .... | .... | 2 | .... | 2 | 4 | .... | 4 | 1 | 1 | .. | 3 | 4 | 1 | 3 |
| .. | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 2 | 5 | 2 | 4 | .. | 2 | 2 | 1 |
| .. | .... | .... | .... | .... | .... | 2 | .... | 2 | 1 | .... | .... | 2 | 1 | .... | 1 | .. | .. | 2 |
| .. | .... | .... | .... | .... | .... | 1 | .... | 1 | 4 | .... | .... | .. | 1 | 1 | .. | 1 | 2 | .... |
| .. | .... | .... | .... | .... | .... | 5 | 4 | 14 | .... | 1 | 3 | 2 | 4 | 10 | 1 | .. | .. | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | .... | 1 | .. | 4 | 1 | .. | .... | .... | 1 |
| .. | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | .... | .... | .... | .... | 1 | .. | .... | .... | 1 |
| 1 | .... | .... | .... | 1 | .... | 3 | 4 | 4 | 3 | .... | 1 | .. | 1 | 1 | 1 | 5 | 1 | 1 |
| .. | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | .... | .... | .... | .... | .... | 1 | 1 | .. | .. |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 2 | 1 | .. | 1 | 1 | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | 4 | 1 | .... | 1 | 1 | 1 | .. | 1 | .. | .... | 2 |
| .. | .... | .... | .... | .... | .... | 1 | .... | 3 | 3 | .. | .... | 1 | 1 | 2 | .... | 1 | 1 | 1 |
| .. | .... | .... | .... | .... | .... | 2 | .... | 1 | 4 | .... | 1 | .. | .. | 1 | .. | .. | .... | .... |
| .. | 16 | .... | .... | .... | 1 | 10 | .... | 22 | 32 | .. | 10 | 10 | 22 | 32 | 7 | 5 | 15 | 27 |
| 4 | .... | 4 | 1 | 2 | 8 | 59 | 16 | 112 | 76 | 9 | 76 | 48 | 86 | 94 | 23 | 38 | 57 | 83 |
| .. | .... | 2 | .... | .... | 3 | 8 | 4 | 26 | 20 | .. | 16 | 11 | 12 | 17 | 4 | 8 | 7 | 16 |
| .. | .... | .... | .... | .... | .... | 1 | 1 | 2 | .... | 1 | 2 | .. | .... | 1 | 1 | .. | .... | 2 |
| .. | .... | .... | .... | .... | 2 | 2 | 2 | 26 | 7 | .. | 4 | 3 | 15 | 12 | 2 | 2 | 5 | 7 |
| .. | .... | .... | .... | 1 | .... | 2 | 1 | 4 | 1 | 1 | 2 | 2 | 1 | 2 | .. | 2 | .. | 1 |
| .. | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .... | .... | .... | 2 | .. | .. | 1 | .... |
| .. | .... | .... | .... | .... | .... | 2 | .... | 2 | .... | 1 | 2 | 1 | 3 | 1 | 2 | 1 | 1 | 2 |
| .. | .... | 1 | .... | .... | .... | .... | .... | 2 | 1 | .... | 1 | 1 | .... | 1 | .... | .. | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 3 | .... | .... | 1 | 1 | 3 |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | .... |
| .. | .... | .... | .... | .... | .... | 1 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... |
| 1 | .... | .... | .... | .... | .... | 3 | .... | 1 | 1 | .... | 2 | 1 | 2 | 1 | .... | 1 | 2 | 3 |
| .. | .... | .... | .... | .... | .... | 10 | .... | .... | 3 | 1 | 4 | 1 | 7 | 2 | .... | 2 | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 1 | .... | .... | 1 | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 2 | 1 | .... | .... | .... | 1 |
| 1 | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | 1 | 1 |
| .. | .... | .... | .... | .... | 1 | .... | 1 | 2 | .... | .... | 2 | .... | 1 | .... | .... | .... | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | .... | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | .... | 3 | 2 | .... | 4 | .... | .... | 2 | 4 |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 2 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| .. | .... | .... | .... | .... | .... | 2 | 2 | 2 | 1 | 1 | 2 | 5 | 2 | 4 | .... | 1 | 1 | 5 |
| .. | .... | .... | .... | .... | .... | 2 | .... | 3 | 1 | .... | 1 | .... | .... | 2 | .... | .... | 1 | .... |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| HUDSON VALLEY DIST.—(*Con'd*): | 11,612 | 20 | 20.00 | 2 | 10.0 | 100.00 | 1 | .... |
| MIDDLETOWN | 6,000 | 3 | 6.00 | 1 | 33.3 | ..... | .. | .... |
| Warwick | 4,646 | 4 | 10.00 | 0 | .. .. | .. .. | .... | .... |
| Goshen | 5,259 | 11 | 25.00 | 4 | 36.4 | ..... | .... | .... |
| Montgomery | 7,714 | 16 | 24.90 | 5 | 31.2 | 250.00 | 1 | .... |
| Haverstraw | 5,603 | 14 | 29.96 | 5 | 35.7 | 500.00 | .... | .... |
| *Nyack* | 6,600 | 3 | 6.00 | 0 | .... | .... | .. | .... |
| Ramapo | ... ..... | 270 | 12.00 | 42 | 15.5 | 114.80 | .... | 7 |
| Rest of District | | | | | | | | |
| ADIRONDACK & NORTH'N DIST.: | ... ..... | 300 | 10 00 | 60 | 20.0 | 133.50 | 1 | 15 |
| Totals | 16,982 | 34 | 23.85 | 15 | 41.2 | 265.00 | .... | .... |
| WATERTOWN | 4,228 | 2 | 6.00 | 1 | 50.0 | .... | .... | .... |
| Ellisburgh | 3,000 | 7 | 26.00 | 2 | 28 5 | 142.85 | .... | ... |
| Cape Vincent | 4,250 | 3 | 8.50 | 0 | ..... | ..... | .... | .... |
| Clayton | 11,959 | 11 | 11.00 | 3 | 27.3 | 90.90 | .... | 1 |
| OGDENSBURG | 5,921 | 7 | 14.20 | 1 | 14.3 | 142.85 | .... | 1 |
| Gouverneur | 4,000 | 5 | 15.00 | 3 | 60.0 | 200.00 | .. | |
| *Potsdam* | 6,013 | 6 | 12.00 | 1 | 25.0 | .... | .... | .... |
| Canton | 5,000 | 9 | 21.60 | 2 | 22.2 | 111.11 | .... | .... |
| *Malone* | 7,010 | 8 | 13.68 | 0 | .... | .... | .... | .... |
| *Plattsburgh* | 10,000 | 15 | 18 00 | 3 | 20.0 | 133.30 | .... | ... |
| *Glens Falls* | 4,434 | 3 | 8.10 | 2 | 66.6 | ..... | .. | .... |
| *Whitehall* | 4,382 | 1 | ..... | 0 | .... | . | .... | .... |
| Fort Edward | 5,112 | 7 | 16.00 | 1 | 14.2 | ..... | .... | .... |
| Kingsbury | 5,281 | 11 | 24.97 | 2 | 18.2 | ..... | .... | .. |
| Granville | 3,167 | 2 | 8.00 | 1 | 50 0 | 500.00 | .. | .... |
| Salem | 4,431 | 5 | 13 10 | 2 | 40.0 | .... | .... | .... |
| Greenwich | .. ..... | 164 | 7.00 | 21 | 13.0 | 142.00 | 1 | 12 |
| Rest of District | | | | | | | | |
| MOHAWK VALLEY DISTRICT: | .... ... . | 392 | 12.50 | 71 | 18.0 | 160.00 | 1 | 16 |
| Totals | 22,858 | 32 | 16 82 | 11 | 34.4 | 875.00 | .... | ... |
| SCHENECTADY | 3,436 | 2 | 7.00 | 0 | .. .. | .... | .... | .... |
| Cobleskill | 18,542 | 18 | 12.00 | 3 | 16.7 | 111.11 | ... | 2 |
| AMSTERDAM | 3,000 | 3 | 12 00 | 1 | 33 3 | ..... | .... | .... |
| *Fort Plain* | 7,768 | 7 | 10 78 | 1 | 14.3 | 142.85 | .... | 1 |
| *Johnstown* | 14,694 | 12 | 10 00 | 3 | 25.0 | .... | .... | .... |
| GLOVERSVILLE | 8,783 | 3 | .... | 0 | .... | 333.33 | .... | .... |
| *Little Falls* | 3,000 | 4 | 16.00 | 1 | 25.0 | 250.00 | .... | 1 |
| *Herkimer* | 4,057 | 3 | 9.00 | 0 | .... | 333 00 | .... | .... |
| *Ilion* | 46,608 | 63 | 16.25 | 14 | 22.2 | 79.35 | .... | 1 |
| UTICA | 5,225 | 6 | 13.50 | 2 | 23.3 | 500.00 | .... | .... |
| Whitestown | 13,638 | 17 | 21.12 | 4 | 25.0 | .... .. | .... | .... |
| ROME | 3,512 | 3 | 11.00 | 0 | .... | .... | .... | .... |
| Boonville | 3,675 | 7 | 15.85 | 1 | 14.3 | 142.85 | 1 | .... |
| Camden | 5,522 | 7 | ..... | 2 | .... | .... . | .... | ... |
| Waterford | 3,527 | 3 | 10.00 | 0 | .... | .... | .... | .... |
| *Ballston Spa* | 12,000 | 20 | 20.00 | 3 | 15.0 | 100.00 | .. | .. |
| *Saratoga Springs* | ..... | 182 | 11.00 | 25 | 13.7 | 186.50 | .. | 11 |
| Rest of District | | | | | | | | |
| SOUTHERN TIER DISTRICT: | .... ..... | 376 | 10.70 | 67 | 17.8 | 146 25 | 2 | 12 |
| Totals | | | | | | | | |
| BINGHAMTON | 31,514 | 56 | 19.46 | 7 | 12 5 | 125.00 | 1 | 1 |
| *Owego* | 6,000 | 12 | 24.00 | 2 | 16.7 | 83.33 | .... | .... |
| Candor | 3,525 | 3 | 10 10 | 0 | .... | 333.33 | .... | .. |
| *Waverly* | 4,123 | 4 | 12 00 | 1 | 25.0 | .... | .... | .... |
| ELMIRA | 30,000 | 45 | 18.00 | 13 | 28.8 | 258.60 | .... | 3 |

FOR NOVEMBER (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | .. | ... | .. | ... | 1 | ... | 2 | 3 | ... | 2 | 2 | 2 | 2 | ... | 1 | .... | 4 |
| ... | .... | .... | ... | .. | .... | ... | .... | .... | 1 | ... | .... | .... | .... | 1 | .... | .... | .... | 1 |
| ... | .... | .... | ... | .. | .... | ... | .... | .... | 2 | ... | .... | .... | .... | 1 | 1 | .... | .... | .. |
| ... | .... | . | ... | .. | .... | ... | .... | 1 | .. | ... | 2 | ... | 1 | 3 | .. | 1 | .... | 3 |
| 1 | ... | ... | ... | .. | .... | 12 | ... | 3 | 2 | ... | 1 | .. | 1 | 2 | .. | 1 | .... | 1 |
| ... | .... | .... | .... | .... | .... | 7 | .... | 1 | 1 | .... | .... | 1 | 2 | 1 | ... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | ... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | .... | 1 | .... |
| 1 | ... | 1 | 1 | 1 | 2 | 16 | 2 | 26 | 25 | 3 | 25 | 16 | 27 | 33 | 12 | 16 | 30 | 26 |
| ... | ... | 2 | .. | ... | 2 | 19 | 1 | 38 | 23 | 1 | 21 | 10 | 29 | 49 | 14 | 5 | 32 | 38 |
| .. | .... | 1 | .. | .... | ... | 8 | ... | 3 | 3 | .... | 5 | .... | 4 | 4 | .... | .. | 1 | 5 |
| ... | .... | .... | .... | .. | .... | ... | .... | .... | .... | .... | .... | .... | .. | 1 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .. | .... | 1 | .... | 2 | .... | ... | 1 | 1 | .... | 1 | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... |
| ... | .... | .. | .... | .... | .... | .... | .... | 3 | 1 | 1 | .... | .... | 1 | .... | 1 | .... | .... | 3 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | 3 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .. | 1 | .... | .... | .... | 4 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 3 | .... | .... | 2 | .... |
| ... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | 1 | 2 | .... | .... | 3 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | 1 | 1 | 1 | 1 | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | 2 | .... | 1 | 2 | .... | .... | .... | 3 | 4 | 2 | .... | .... | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .. | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | 1 | 1 | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | 1 | .... | 2 | 1 | .... | 1 | 2 | 3 | 1 | 1 | .. | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... |
| ... | .... | 1 | .... | .. | 2 | 6 | 1 | 20 | 12 | .... | 14 | 6 | 12 | 23 | 8 | 5 | 22 | 19 |
| 1 | .... | 12 | 1 | .. | 2 | 24 | 6 | 39 | 34 | 2 | 29 | 25 | 39 | 53 | 13 | 16 | 36 | 43 |
| 1 | .... | 4 | .. | .... | ... | 6 | 1 | 1 | 5 | .... | 1 | 1 | 6 | 1 | .... | .... | 4 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .. | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | 2 | 2 | .... | 2 | 1 | 2 | 3 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .. | .... | .... | .. | 1 | 1 | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 1 | .... | .... | 1 | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 3 | .... | 2 | 3 | 2 | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| ... | .... | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | 12 | .... | 12 | 1 | .... | 3 | 4 | 5 | 17 | .... | 2 | 3 | 11 |
| ... | .... | .... | .... | .... | .... | 3 | .... | .... | 1 | .... | 1 | .. | 1 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | .... | 2 | 1 | 3 | 5 | .... | .... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | 1 | 1 | 2 | .... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | 1 | 1 | .... | 1 | .... | .... | .... | 2 |
| ... | .... | .... | .... | .... | .. | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | 1 | .... | .... |
| ... | .... | .... | .... | .... | .... | 2 | .... | 1 | 3 | .... | 1 | 2 | .... | 1 | 1 | .... | 4 | 5 |
| ... | ... | 6 | 1 | ... | 2 | 9 | 5 | 14 | 15 | 2 | 13 | 12 | 18 | 21 | 8 | 9 | 18 | 18 |
| 1 | ... | 4 | ... | .... | 1 | 33 | 2 | 41 | 33 | 1 | 20 | 19 | 38 | 53 | 9 | 21 | 49 | 37 |
| ... | .... | 2 | .... | .... | .... | 2 | 1 | 5 | 6 | . | 3 | 3 | 13 | 10 | 1 | 3 | 4 | 1 |
| ... | .... | .... | .... | .... | 1 | .... | .... | 5 | 2 | .... | .... | .... | .. | 1 | .... | .. | 2 | 1 |
| . . | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | 1 | .... | .... | .... | .... |
| ... | ... | ... | ..... | ..... | ... | 4 | ... | 6 | 5 | 1 | .... | 2 | 5 | 5 | ..... | 2 | 4 | 8 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| **SOUTHERN TIER DIST. — (*Con'd*):** | | | | | | | | |
| Horseheads | 3,319 | 3 | 11.00 | 0 | .... | 333.33 | .... | 1 |
| HORNELLSVILLE | 11,898 | 15 | 15.15 | 3 | 20.0 | 66.60 | .... | 1 |
| *Bath* | 3,261 | 5 | 18.40 | 1 | 20.0 | ..... | .... | .... |
| CORNING | 10,025 | 9 | 10.80 | 3 | 33.3 | 222.22 | .... | .... |
| Wellsville | 5,033 | 3 | 8.00 | 0 | .... | ..... | .... | .... |
| OLEAN | 7,358 | 11 | 18.00 | 7 | 63.7 | 272.70 | .... | 1 |
| *Salamanca* | 3,700 | 6 | 19.40 | 3 | 50.0 | 500.00 | .... | .... |
| DUNKIRK | 10,000 | 19 | 22.80 | 7 | 36.8 | 315.75 | .... | 1 |
| JAMESTOWN | 18,627 | 26 | 16.75 | 8 | 30.8 | 230.00 | .... | .... |
| *Westfield* | 3,000 | 1 | ..... | 0 | .. | ... | .... | .... |
| *Fredonia* | 3,400 | 1 | ..... | 1 | ... | ..... | .... | .... |
| Rest of District | ..... | 157 | 7.00 | 11 | .... | ..... | 1 | 4 |
| **EAST CENTRAL DISTRICT:** | | | | | | | | |
| Totals | ..... | 427 | 13.50 | 75 | 17.6 | 152.10 | 2 | 13 |
| SYRACUSE | 91,944 | 126 | 16.44 | 37 | 29.0 | 206.35 | ... | 3 |
| *Baldwinsville* | 3,040 | 3 | 12.00 | 1 | 33.3 | ..... | ... | .... |
| De Witt | 5,182 | 5 | 12.00 | 2 | 40.0 | 600.00 | 1 | 1 |
| *Cortland* | 8,580 | 11 | 15.35 | 5 | 45.5 | 181.80 | ... | .... |
| *Homer* | 3,000 | 3 | 12.00 | 0 | ... | 333.33 | ... | 1 |
| *Oneida* | 6,083 | 6 | 12.00 | 0 | .... | ..... | ... | .... |
| Hamilton | 4,110 | 5 | 14.60 | 1 | 20.0 | ..... | ... | ... |
| Cazenovia | 3,803 | 3 | 10.00 | 1 | 33.3 | ..... | ... | ... |
| Brookfield | 3,235 | 6 | 21.84 | 0 | ... | ..... | .... | .. |
| *Norwich* | 5,212 | 7 | 16.20 | 1 | 14.2 | 142.85 | .... | .. |
| *Oneonta* | 6,776 | 5 | 10.00 | 0 | .... | ..... | ... | .... |
| Worcester | 2,670 | 4 | 16.00 | 0 | ... | ..... | ... | .. |
| *Cooperstown* | 3,000 | 2 | 8.00 | 0 | .... | ..... | ... | .... |
| Walton | 4,311 | 8 | 20.00 | 0 | .... | 125.00 | ... | 1 |
| Delhi | 3,000 | 3 | 12.00 | 0 | .. | ..... | ... | .... |
| Liberty | 3,471 | ..... | ..... | ... | ... | ..... | ... | ... |
| Rest of District | ..... | 230 | 11.50 | 27 | 12 1 | 130.00 | 1 | 7 |
| **WEST CENTRAL DISTRICT:** | | | | | | | | |
| Totals | ... .... | 316 | 12.44 | 37 | 11.7 | 145.50 | 1 | 7 |
| AUBURN | 24,737 | 50 | 24.25 | 12 | 24.0 | 400.00 | ... | .... |
| ITHACA | 13,460 | 7 | ..... | 0 | .... | ... .. | .... | .... |
| Hector | 4,832 | 2 | 6.00 | 1 | 50.0 | ... .. | .... | ... |
| *Waterloo* | 4,350 | 6 | 16.50 | 1 | 16.7 | 333.33 | ... | ... |
| *Seneca Falls* | 6,500 | 3 | 6.00 | 0 | ... | ..... | ... | .... |
| *Geneva* | 7,557 | .... | ... | ... | ... | ... | .... | ... |
| *Canandaigua* | 5,868 | 8 | 16.00 | 1 | 12.5 | 250.00 | .... | 1 |
| Manchester | 4,181 | 5 | 14.25 | 2 | 40.0 | 200.00 | .... | 1 |
| Phelps | 5,150 | 4 | 10.00 | 1 | .... | ..... | .... | .. |
| *Penn Yan* | 4,254 | 6 | 16.90 | 1 | 16.7 | 166.66 | ... | .. |
| *Batavia* | 7,221 | 10 | 16 60 | 1 | 10.0 | 200.00 | ... | 2 |
| *Dansville* | 3,758 | 9 | 24.00 | 2 | 22.2 | 111.11 | 1 | .. |
| *Le Roy* | 3,000 | 4 | 16.00 | 0 | ... | ..... | ... | .. |
| Warsaw | 4,700 | 7 | 17.85 | 0 | ... | 142.85 | .. | 1 |
| Rest of District | ..... | 195 | 11.10 | 15 | 7 5 | 80.00 | .... | 2 |
| **LAKE ONTARIO & WEST. DIST.:** | | | | | | | | |
| Totals | ..... | 933 | 14.13 | 224 | 24.0 | 142.50 | 4 | 21 |
| BUFFALO | 300,000 | 418 | 16.72 | 141 | 33.8 | 176.18 | 1 | 8 |
| TONAWANDA | 7,145 | 8 | 13.50 | 2 | 25.0 | 125.00 | ... | ... |
| Amherst | 3,960 | ..... | ..... | ... | .... | ..... | ... | ... |
| *North Tonawanda* | 4,800 | 10 | 25 00 | 3 | 30 0 | 200 00 | .... | 2 |
| LOCKPORT | 16,089 | 10 | 8.00 | 2 | 20.0 | 100.00 | .... | .... |

FOR NOVEMBER — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | .. | .... | .... | .... | .... | ... | ... | 2 2 | .. | ... | .. | .... | .. | ... | .. | 2 | ... |
| .. | .... | ... | .... | .... | ... | .... | .... | 3 | ... | .. | .. | 1 | ... | 3 | ... | .. | 2 | 3 |
| .. | ... | ... | .... | .... | ... | .... | .... | 1 | ... | .... | .. | ... | 1 | ... | 1 | 1 | 1 | ... |
| .. | .... | ... | .... | .... | ... | 2 | .... | 1 | .... | .... | 2 | .... | ... | 1 | ... | 1 | ... | 2 |
| ... | .... | 2 | .... | .... | .. | ... | .... | 1 | .... | .... | ... | .... | ... | 1 | .... | ... | 1 | ... |
| ... | .... | ... | .... | .... | .. | 3 | ... | 3 | 2 | .... | .... | .. | .... | 1 | .... | .. | .. | 2 |
| 1 | .... | ... | .... | .... | .... | 4 | .... | 2 | .. | .... | 3 | 2 | .... | .... | .... | 1 | 3 | 1 |
| ... | .... | ... | .... | .. | .... | 5 | 1 | 2 | 2 | .... | 1 | 1 | 1 | 4 | .. | 2 | 4 | 3 |
| ... | .... | ... | .... | .... | .... | .. | .. | ... | .... | .... | ... | .. | 1 | .... | .... | .. | .. | ... |
| ... | .. | ... | .... | .... | .. | 1 | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... |
| ... | .. | ... | .... | .... | .. | 11 | .... | 11 | 11 | .... | 11 | 10 | 15 | 23 | 6 | 10 | 28 | 16 |
| 1 | ... | 6 | ... | 1 | 2 | 38 | 2 | 43 | 41 | 2 | 37 | 24 | 49 | 51 | 12 | 14 | 40 | 49 |
| ... | .... | 6 | .... | 1 | 1 | 14 | 1 | 12 | 21 | 1 | 9 | 5 | 14 | 10 | 4 | 4 | 4 | 16 |
| ... | .... | ... | .... | .... | .... | .. | .. | .... | 1 | .... | .. | .. | 1 | .... | .... | .. | .... | 1 |
| ... | .... | ... | .... | .... | .. | 1 | .... | .... | .... | .... | .. | .. | .... | .... | .... | .... | .... | 2 |
| ... | .... | ... | .... | .... | .. | 2 | ... | 2 | .... | .... | 1 | 1 | .... | 1 | .... | .... | .... | 4 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | .... | .. | .... | .... | .... | .... |
| ... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 2 | .... | 1 | 1 | .... | .. |
| .. | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | 1 | 2 | .... | 1 | .... | .... | 1 | .. |
| ... | .... | .. | .... | .... | .... | .... | .... | 1 | 1 | 1 | .. | .... | .... | 1 | .... | .... | 1 | 1 |
| ... | .. | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | .. | .... | .... | 1 | .... | .... | 1 | 2 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | 1 | .. | .... | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | 1 | 1 | .... | .... | 2 | .... |
| ... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | 1 | 3 | .... | .... | 1 | .... |
| .. | .... | .... | .... | .... | .. | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... |
| 1 | ... | .... | .... | .... | 1 | 20 | 1 | 24 | 16 | .. | 20 | 13 | 28 | 32 | 5 | 9 | 29 | 23 |
| 3 | .. | 3 | 1 | 2 | 2 | 37 | | 30 | 29 | 1 | 27 | 15 | 29 | 38 | 17 | 18 | 49 | 17 |
| .. | ... | 2 | 1 | .... | | 17 | .... | 8 | 4 | ... | 4 | ... | 1 | 5 | 2 | 1 | 4 | 1 |
| ... | .... | .. | .... | .... | | .... | .... | .... | 2 | .. | .. | .. | 2 | 1 | 1 | 1 | .... | ... |
| ... | .... | .... | .... | .... | | .... | .... | .... | .... | .... | .. | 1 | .... | .... | .... | .... | .... | 1 |
| . | ... | . | .... | 1 | | 1 | .... | .. | 1 | ... | 1 | .... | .... | .... | .... | .... | 2 | ... |
| ... | .... | ... | .... | .... | | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | 1 | .... |
| ... | .... | .... | .... | .... | | 1 | .... | .... | .... | 1 | .... | 1 | .... | .... | 1 | .... | 2 | 1 |
| ... | .. | .... | .... | .... | | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | 2 |
| ... | .. | .... | .... | .... | | .... | .... | 1 | .... | .... | .... | 1 | 1 | .... | 1 | .... | .... | .... |
| ... | .. | .... | .... | .... | | .... | .... | .... | 1 | .... | .... | 1 | 1 | .... | .... | .... | 3 | .... |
| ... | .... | .... | .... | .... | | .. | .... | 2 | 1 | .... | 1 | 1 | 2 | .... | .... | .... | 1 | .. |
| ... | .... | .... | .... | .... | | .... | .... | 2 | .... | .... | .. | 1 | 2 | .... | .... | .... | 2 | 1 |
| ... | .... | .... | .... | .... | | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | 1 |
| ... | .... | .... | .... | .... | | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | 1 | 2 | .... |
| 3 | ... | 1 | ... | 1 | 1 | 8 | .... | 17 | 20 | ... | 19 | 10 | 17 | 29 | 12 | 14 | 31 | 10 |
| 2 | ... | 19 | 3 | 2 | 5 | 60 | 17 | 117 | 88 | 6 | 76 | 45 | 85 | 136 | 28 | 59 | 67 | 93 |
| ... | .... | 19 | 3 | 1 | 4 | 25 | 12 | 50 | 40 | 3 | 31 | 20 | 35 | 69 | 15 | 29 | 15 | 38 |
| ... | .... | ... | ... | .... | .... | 1 | .... | 2 | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | 7 |
| ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | 1 | .... | 1 | 2 | 2 |
| . | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | 1 | 1 | 1 | 1 | .... | .... | 2 | 2 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid Fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONTARIO AND WESTERN DISLRICT — (*Continued*). | | | | | | | | |
| NIAGARA FALLS | 16,000 | 17 | 13.00 | 2 | 11.8 | 52.10 | .... | .... |
| *Medina* | 4,500 | 4 | 11.20 | 2 | 50.0 | 500.00 | .... | .... |
| *Albion* | 4,586 | 6 | 15.60 | 0 | .... | ..... | ... | ... |
| *Brockport* | 2,742 | 5 | 15.10 | 2 | 40.0 | 800.00 | .... | ... |
| ROCHESTER | 150,000 | 177 | 14.35 | 28 | 15.8 | 101.70 | .. . | 5 |
| Palmyra | 4,173 | 5 | 14.35 | 1 | 20.0 | ..... | .... | .... |
| *Newark* | 3,000 | 4 | 16.00 | 2 | 50.0 | 250.00 | ... | .... |
| Lyons | 6,127 | 9 | 17.55 | 3 | 33.3 | 111.11 | 1 | .... |
| *Clyde* | 3,000 | 1 | 4.00 | 0 | .... | ..... | ... | .... |
| OSWEGO | 21,966 | 20 | 11.00 | 4 | 20.0 | 100.00 | .... | .... |
| *Fulton* | 4,214 | 7 | 19.95 | 2 | 28.5 | . .. | .... | ... |
| Richland | 3,637 | 2 | 7.00 | 0 | .... | ..... | ... | .. |
| Rest of district | ..... | 230 | 11.75 | 30 | 13.0 | 117.40 | 2 | 6 |
| Totals for the State | .. . ..... | 8,458 | 15.35 | 2,324 | 27.5 | 157.00 | 45 | 180 |
| Av'ge for Nov. for past 8 years. | ..... | 7,408 | ..... | 2,327 | 31.5 | 170.00 | 32 | 174 |
| Totals for October, 1893 | . ... ... | 8,981 | ..... | 2,994 | 33.4 | 185.00 | 56 | 253 |

REMARKS.— The reported mortality for the month has further decreased from the low daily uniformly the healthiest month in the year in this State, the number of deaths daily being less 1892, the Zymotic mortality, and, also, the infant mortality, is lower; both are, also, lower than 75 fewer deaths than in October. Scarlet fever continues, with little change, to be less prevalent Diphtheria caused the same mortality as in last November, but shows a marked continuance of the increase occurred in 1892; deaths are reported from forty-four towns not noted in the Bulletin list, cities. Diarrhœal diseases caused hardly one-fourth the mortality from this cause of October, where single cases are reported and at Islip where 2 deaths occurred. There were 955 deaths from Acute respiratory diseases have, as usual, increased, the mortality being 1,242 against 947 in the mortality of the month, though a few deaths attributed to it were reported. The death-rate for

FOR NOVEMBER – – (*Concluded*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | .... | .... | ... | .... | ... | 1 | ..... | 2 | 3 | .. | 2 | .. | ..... | 3 | 1 | 2 | 1 | 2 |
| ... | .... | .... | ... | .... | .... | 2 | ..... | ... | ..... | ... | 1 | .. | ... | ..... | ... | 1 | ... | .... |
| ... | .... | .. | ... | .... | .... | ... | ..... | ... | ..... | ... | 1 | 2 | 1 | 1 | .. | .. | 1 | .... |
| .. | .... | .... | .. | .... | ... | 4 | ..... | ... | ..... | ... | ..... | ... | 1 | ..... | ... | ... | ... | ... |
| 2 | .... | .... | .. | .... | .. | 10 | 1 | 30 | 20 | 2 | 9 | 5 | 15 | 22 | 2 | 14 | 16 | 24 |
| ... | .. | .... | .... | ... | ... | ... | ..... | ... | ..... | ... | .. | ... | 1 | ..... | .. | .. | 1 | 3 |
| ... | .... | .... | .... | ... | .... | 1 | ..... | 2 | ..... | ... | ..... | ... | ..... | ..... | 1 | . | .. | ... |
| ... | .... | ... | .... | .... | ... | .. | ..... | 1 | .. | .... | 1 | 2 | 1 | ... | 1 | ... | 1 | 1 |
| ... | .... | .... | .... | .... | .... | ... | ..... | ... | 1 | .... | ..... | ... | ..... | ..... | ... | ... | ... | ... |
| ... | .... | .. | ... | .. | .... | 1 | 1 | 1 | 4 | .... | 3 | 1 | 1 | 3 | 1 | 2 | .. | 2 |
| ... | .... | .... | ... | .. | .... | .... | ..... | .... | 1 | .... | ..... | ... | 1 | ..... | .. | 1 | 2 | 2 |
| ... | .... | .. | .. | .. | .... | ... | ..... | ... | ..... | ... | ..... | 1 | ..... | ..... | ... | ... | 1 | ... |
| ... | .... | .... | .. | 1 | 1 | 14 | 3 | 29 | 16 | 1 | 26 | 13 | 28 | 35 | 6 | 9 | 25 | 15 |
| 30 | 27 | 77 | 56 | 14 | 50 | 700 | 152 | 1,242 | 957 | 57 | 595 | 529 | 691 | 925 | 242 | 411 | 469 | 1009 |
| 69 | 5 | 114 | 58 | 21 | 55 | 596 | 128 | 1,145 | 950 | 65 | 443 | 415 | 582 | 773 | 194 | 324 | 467 | 850 |
| 50 | 19 | 65 | 14 | 16 | 56 | 599 | 583 | 947 | 1,070 | 58 | 771 | 542 | 658 | 1,010 | 273 | 422 | 363 | 1206 |

average of 290 in October to one of 281, which is the same as that of November, 1892. This is during November by 25 than the daily average for the past eight years. Compared with November during the month of October. Typhoid fever caused the same number of deaths as a year ago, and than last year. There is an increase in Measles since October, chiefly in New York city. increases in prevalence since August, causing 100 more deaths than in October; the same relative chiefly in the central part of the State, the chief increase, however, being in some of the larger Small pox exists, outside of the metropolitan center, in Warwick, Greenburgh and White Plains Consumption against 1,070 in October; there are uniformly fewer deaths from it at this season. October. Another return of Epidemic Influenza has occurred but has not impressed itself upon the month from all causes is 15.35 against 15.83 in October.

MONTHLY BULLETIN OF THE NEW

*Abstract of reports of deaths in the following*

[Cities are printed in SMALL CAPITALS, villages in *italics* and towns in Roman

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| **MARITIME DISTRICT:** Totals | ..... | 5,838 | 21.33 | 1,971 | 33.7 | 138.00 | 25 | 47 |
| NEW YORK CITY | 1,860,803 | 8,527 | 22.30 | 1,302 | 36.8 | 153.40 | 17 | 35 |
| BROOKLYN | 978,394 | 1,601 | 19.24 | 517 | 32.3 | 106.87 | 7 | 14 |
| Gravesend | 8,418 | 5 | 8.00 | 0 | ... | ..... | .... | .... |
| New Utrecht | 9,129 | 16 | 21.00 | 6 | 37.5 | ..... | ... | ... |
| LONG ISLAND CITY | 35,745 | 72 | 24.17 | 27 | 38.0 | 142.50 | 1 | 2 |
| Newtown | 19,776 | 41 | 24.60 | 9 | 22.0 | 120.00 | ... | ... |
| Oyster Bay | 14,887 | 8 | ..... | 0 | ... | ..... | .... | ... |
| Hempstead | 28,991 | 37 | 18.70 | 10 | 27.0 | 189.00 | ... | 1 |
| North Hempstead | 8,726 | 13 | 18.00 | 5 | 38.5 | 230.77 | .... | .. |
| Jamaica | 17,654 | 20 | 13.60 | 7 | 35.0 | 250.00 | ... | .... |
| Flushing | 20,816 | 8 | ..... | 2 | 25.0 | ..... | .... | .... |
| Southold | 7,671 | 13 | 20 28 | 0 | ... | 150.00 | .. | .... |
| *Sag Harbor* | 3,000 | 4 | 16.00 | 1 | 25 0 | ..... | .. | .... |
| Huntington | 8,253 | 10 | 14.60 | 2 | 20.0 | ..... | .... | .... |
| Brookhaven | 13,493 | 19 | 17.10 | 1 | 5.0 | 50.00 | | 1 |
| *New Brighton* | 17,261 | 24 | 16 50 | 6 | 25.0 | 83.30 | ... | ... |
| *Edgewater* | 15,000 | 21 | 16 80 | 5 | 23 8 | 95.00 | ... | .. |
| *Port Richmond* | 6,390 | 6 | 12.00 | 3 | 50.0 | 333.30 | .. | .... |
| Westfield | 8,648 | 12 | 16.75 | 3 | 25.0 | 83.30 | .. | .... |
| YONKERS | 34,000 | 64 | 22.60 | 15 | 23.4 | 78.10 | ... | .... |
| Westchester | 8,326 | 13 | 18.75 | 2 | 15.5 | 72.50 | ... | .... |
| Greenburgh | 11,630 | 9 | ... .. | 4 | 44.4 | 333.30 | .... | .... |
| MOUNT VERNON | 15,513 | 19 | 14.75 | 6 | 31.5 | 102.60 | ... | .... |
| *Port Chester* | 5,274 | 11 | 23.60 | 2 | 18.0 | ... | .... | ... |
| *Sing Sing* | 9,352 | 14 | 18.00 | 1 | 7.0 | ..... | .... | ... |
| *New Rochelle* | 8,217 | 15 | 21.75 | 7 | 46.6 | ... | ... | .... |
| *Peekskill* | 9,676 | 14 | 17 35 | 5 | 35.5 | 71.40 | .... | .... |
| *White Plains* | 4,042 | 7 | 20.70 | 1 | 14.2 | 142.85 | ... | 1 |
| Rest of District | ..... | 220 | ..... | 22 | 10.0 | 127.25 | .... | 2 |
| **HUDSON VALLEY DISTRICT:** Totals | ..... | 1,132 | 19.70 | 239 | 21.1 | 130.00 | 8 | 33 |
| ALBANY | 98,000 | 212 | 25.86 | 46 | 21.7 | 132.75 | 2 | 7 |
| COHOES | 23,234 | 45 | 23.27 | 10 | 22.2 | 288.90 | ... | 2 |
| TROY | 64,986 | 112 | 20.72 | 26 | 23.2 | 100.00 | ... | 4 |
| *West Troy* | 12,967 | 38 | 35.00 | 12 | 31.5 | 78.90 | ... | 2 |
| *Green Island* | 4,463 | 6 | 17.15 | 4 | 66.6 | 166.67 | ... | ... |
| *Lansingburgh* | 10,550 | 22 | 25.00 | 7 | 31.8 | 227.25 | .... | .... |
| *Hoosick Falls* | 7,014 | 7 | 12.00 | 0 | ... | 285.70 | ... | ... |
| *Greenbush* | 7,462 | 20 | 32.88 | 7 | 28.5 | 50.00 | ... | .... |
| Coxsackie | 3,824 | 5 | 15.90 | 3 | 60.0 | .... | .... | |
| *Catskill* | 4,920 | 3 | 8 00 | 0 | ... | ..... | .. | .... |
| HUDSON | 9,633 | 17 | 21.00 | 2 | 11.5 | 57.50 | .. | .... |
| KINGSTON | 21,500 | 42 | 23 50 | 14 | 33.3 | 325.00 | 4 | .... |
| *Ellenville* | 3,000 | 3 | 12.00 | 1 | 33.3 | ..... | .... | .... |
| Marbletown | 3,689 | 10 | 33 00 | 1 | 10.0 | .... | .... | ... |
| Rosendale | 6,125 | 5 | 10.00 | 2 | 40 0 | 200.00 | | 1 |
| Esopus | 5,035 | 7 | 16.80 | 2 | 28.5 | ..... | .... | .. |
| *Saugerties* | 4,237 | 4 | 12 00 | 1 | 25.0 | ..... | .. | .... |
| POUGHKEEPSIE | 23,200 | 46 | 23.78 | 10 | 21.7 | 65.25 | .... | 2 |
| *Fishkill* | 3,617 | 9 | 29.70 | 1 | 11.0 | 111.10 | .... | .... |
| *Wappinger Falls* | 3,718 | 6 | 19.32 | 1 | 16.7 | ..... | .... | .... |
| NEWBURGH | 24,536 | 52 | 25.48 | 10 | 19 2 | 173 00 | .... | .... |
| *Port Jervis* | 9,327 | 11 | 14.10 | 2 | 18.2 | 90.90 | .... | .... |

## YORK STATE BOARD OF HEALTH.

*districts, cities and towns during December*, 1893.

type. For boundaries of *Sanitary Districts*, see Annual Summary.]

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 35 | 42 | 67 | 12 | 51 | 444 | 71 | 1,381 | 681 | 47 | 321 | 392 | 381 | 555 | 136 | 203 | 129 | 798 |
| 11 | 13 | 29 | 54 | 9 | 36 | 302 | 54 | 786 | 424 | 31 | 176 | 238 | 208 | 281 | 92 | 123 | 54 | 563 |
| 5 | .... | 13 | 12 | 1 | 15 | 93 | 11 | 420 | 184 | 13 | 101 | 106 | 111 | 206 | 31 | 50 | 37 | 171 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 2 | .... | 1 | 1 | .... |
| .. | .. | .... | .... | .... | .... | .... | .... | 7 | 2 | .... | 1 | .... | .... | 2 | .... | 1 | .... | 3 |
| .. | 1 | .... | .... | .... | .... | 16 | 1 | 21 | 8 | .... | 1 | 1 | 4 | 4 | .... | 4 | .... | 8 |
| 1 | .. | .... | 1 | .... | .... | 3 | .... | 13 | 2 | 1 | 3 | 3 | 3 | 4 | 1 | 3 | .... | 3 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .. | .... | .. | 1 | .... |
| .. | .... | .... | .... | .... | .... | 5 | 1 | 8 | 4 | 1 | 4 | 2 | 4 | 1 | .... | 1 | 1 | 4 |
| 1 | .. | .... | .. | .... | .... | 2 | .... | 3 | 1 | .... | 1 | .... | .... | 1 | 1 | 2 | .... | 1 |
| .. | 1 | .... | .... | .... | .... | 3 | 1 | 5 | 2 | 1 | 4 | .... | .... | .... | .... | .... | 1 | 2 |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | 4 | .... | .... | .... | 1 | .... | .... | .... | .. | 2 |
| 1 | .. | .... | .... | .... | .... | .... | 1 | 1 | 2 | .... | .... | 1 | 1 | 2 | .... | 2 | 2 | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .. | 1 | .... | .. | 2 |
| .. | .. | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | 1 | 2 | .... | 2 | .... | .... | 1 | 1 |
| .. | .. | .... | .... | .... | .... | .... | .... | 4 | 1 | .... | 1 | 2 | 2 | 2 | .... | .... | 3 | 1 |
| .. | .... | .... | .... | .... | .... | 2 | .... | 4 | 2 | .... | 4 | .. | 1 | 3 | 1 | .... | .. | 5 |
| .. | .. | .... | .... | .... | .... | 2 | .... | 8 | 1 | .. | 3 | 2 | 3 | 1 | .... | .... | 1 | .... |
| .. | .. | .... | .... | .... | .... | 2 | .... | 2 | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | .... | 2 | 1 | 2 | 1 | .... | .... | 1 | 2 |
| .. | .... | .... | .... | 2 | .. | 3 | .... | 25 | .... | .... | 1 | 7 | 4 | 12 | 1 | 1 | 3 | 5 |
| .. | .... | .... | .... | .... | .... | 1 | .... | 1 | 2 | .... | 1 | 3 | .. | 1 | .. | 2 | 1 | 1 |
| .. | .... | .... | .... | .... | .... | 3 | .... | .. | 1 | .... | 1 | .. | 1 | .... | 1 | .... | .... | 1 |
| .. | .... | .... | .... | .... | .... | 2 | .... | 3 | 2 | .... | 2 | 2 | 1 | 2 | 1 | .... | 2 | 2 |
| .. | .... | .... | .... | .... | .... | .... | .... | 3 | 1 | .... | .... | 2 | 1 | .... | .... | 3 | 1 | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | 5 | .... | .... | .... | 1 | 2 | 1 | 1 | 2 | 1 | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | 6 | 1 | .. | 3 | .... | 1 | 2 | 1 | .. | .. | 1 |
| .. | .... | .... | .... | .... | .... | 1 | .... | 2 | 1 | .... | 2 | 2 | 1 | .... | .... | .... | 1 | 4 |
| .. | .... | .... | .... | .... | .... | .... | .... | 4 | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... |
| 1 | 20 | .. | .. | .... | .... | 4 | 1 | 43 | 32 | .... | 9 | 16 | 29 | 25 | 3 | 3 | 17 | 15 |
| 2 | .... | 24 | 1 | 2 | 9 | 50 | 18 | 257 | 111 | 6 | 62 | 48 | 94 | 123 | 28 | 27 | 110 | 113 |
| .. | .... | 3 | .... | .... | .... | 7 | 9 | 56 | 30 | 3 | 13 | 7 | 16 | 22 | 5 | 4 | 3 | 25 |
| .. | .... | 6 | .... | .... | .... | 2 | 3 | 7 | 4 | .... | 1 | .. | 2 | 4 | 2 | 2 | 4 | 6 |
| .. | .... | 2 | .... | .... | 1 | 4 | .... | 33 | 12 | .... | 8 | 8 | 12 | 12 | 1 | 2 | 6 | 7 |
| .. | .... | .... | .... | .... | .... | 1 | .... | 12 | 4 | 1 | 1 | 1 | 3 | 5 | 1 | 2 | .... | 4 |
| .. | .... | .... | .... | .... | 1 | .. | .... | 1 | .... | .... | 1 | .... | 1 | 1 | .... | .... | .... | 1 |
| .. | .... | 1 | .... | .... | 1 | 2 | 1 | 5 | 4 | .... | .... | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| .. | .... | 2 | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | .... | .... | .... | 1 | 1 |
| .. | .... | .... | .... | .... | .... | 1 | .... | 6 | 4 | .... | 3 | 1 | 1 | .... | .... | 1 | .. | 3 |
| .. | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .. | .... | .... | 1 | .... | .... | .... | 2 |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... | .... |
| 1 | .. | 2 | .... | .... | 1 | 4 | 1 | 3 | 3 | 1 | 1 | 2 | 3 | 3 | .. | 1 | 1 | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | 5 | 3 | 1 | 3 | 2 | 8 | 6 | .... | .. | 1 | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .. | .... | 1 | .. | .. | .... | .... | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | 1 | 4 | .... | 1 | .. | .. | 1 | 1 | .... | 1 | 1 |
| .. | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .. | .... | 1 | .... | .. | .. | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | 5 | 2 | .... | .... | .... | .. | .... | .. | .. | .... | .... |
| .. | .... | .... | .... | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .. | .. | .. | .. | 1 | .... |
| .. | .... | .... | .... | .... | .... | .... | 1 | 10 | 3 | .. | 6 | 3 | 3 | 5 | .. | .. | 7 | 6 |
| .. | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .. | 1 | 1 | 1 | .. | .. | 3 | .. |
| .. | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 2 | .. | .. | .. | 2 |
| .. | .... | 4 | .... | .... | .... | 5 | .. | 18 | 1 | .... | .... | 5 | 2 | 5 | . | 2 | 5 | 5 |
| .. | .... | .... | .... | .... | .... | 1 | .... | 1 | 1 | .... | 3 | .... | 2 | .... | .... | .... | 1 | 2 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| HUDSON VALLEY DIST.—(*Con'd*): | | | | | | | | |
| MIDDLETOWN | 11,612 | 25 | 25.00 | 8 | 32.5 | 80.00 | .... | .... |
| Warwick | 6,000 | 14 | 28.00 | 5 | 35.7 | 214.30 | .... | 1 |
| Goshen | 4,646 | 6 | 15.50 | 1 | 16.7 | .... .... | .... | .. |
| Montgomery | 5,259 | 5 | 12.00 | 0 | .... | .... .... | .... | .... |
| Haverstraw | 7,714 | 5 | .... .. | 3 | 60.0 | 400.00 | .... | .... |
| *Nyack* | 5,603 | 14 | 28.00 | 8 | 57.1 | 642.85 | .... | .... |
| Ramapo | 6,600 | 9 | 16.40 | 1 | 11.0 | 222.20 | .... | 1 |
| Rest of District | ..... .. | 372 | ..... | 51 | 13.5 | 94.60 | 2 | 13 |
| ADIRONDACK & NORTH'N DIST.: | | | | | | | | |
| Totals | ..... | 412 | 13 00 | 50 | 12.5 | 90.00 | .... | 16 |
| WATERTOWN | 16,962 | 20 | 14.12 | 3 | 15.0 | 150.00 | .. | 1 |
| Ellisburgh | 4,223 | 7 | 20.00 | 2 | 28.5 | .... .... | .. | .... |
| Cape Vincent | 3,000 | 2 | 8.00 | 0 | ..... | ..... | .. | .... |
| Clayton | 4,259 | 7 | 19.60 | 0 | .... | .... .... | .. | .... |
| OGDENSBURG | 11,959 | 8 | 8 50 | 3 | 37.5 | 125 00 | .... | 1 |
| Gouverneur | 5,921 | 13 | 26.00 | 1 | 7 7 | 77.00 | .... | .... |
| *Potsdam* | 4,000 | 6 | 18.00 | 1 | 16.7 | 166.60 | .. | .... |
| Canton | 6,013 | 15 | 32.00 | 1 | 6.7 | 66.70 | .... | . |
| *Malone* | 5,000 | 6 | 16.50 | 1 | 16.7 | 166.60 | .... | .. |
| *Plattsburgh* | 7,010 | 6 | .... .... | 0 | ..... | .. .. | .... | .. |
| *Glens Falls* | 10,000 | 2 | ..... | 1 | ..... | .... | .... | .... |
| *Whitehall* | 4,434 | ..... | ..... | ..... | ..... | ..... | .... | ..... |
| Fort Edward | 4,382 | 9 | 24 50 | 2 | 22.2 | 111.10 | .. | .... |
| Kingsbury | 5,112 | 7 | 16 45 | 1 | 14.5 | .... .... | .... | .... |
| Granville | 5,281 | 15 | 36.00 | 1 | 6.7 | 200.00 | .... | 1 |
| Salem | 3,167 | 4 | 15.00 | 0 | .... | ..... | .... | . |
| Greenwich | 4,431 | 6 | 16.20 | 1 | 16.7 | ..... | .... | .... |
| Rest of District | ..... | 279 | ..... | 32 | 11.5 | 88.75 | .... | 5 |
| MOHAWK VALLEY DISTRICT: | | | | | | | | |
| Totals | ..... .. | 508 | 16.20 | 99 | 20.0 | 120.00 | 1 | 13 |
| SCHENECTADY | 22,858 | 23 | 14.75 | 10 | 35.6 | 285.00 | .... | 1 |
| Cobleskill | 3,436 | 9 | 31.50 | 0 | .... | .... .... | .... | .... |
| AMSTERDAM | 18,542 | 19 | 13.00 | 6 | 31.5 | 210.00 | 1 | 1 |
| *Fort Plain* | 3,000 | 3 | 12.00 | 1 | 33.3 | .... .. | .... | .... |
| *Johnstown* | 7,768 | 8 | 12.32 | 1 | 12.5 | 375 70 | .... | 2 |
| GLOVERSVILLE | 14,694 | 21 | 17.15 | 6 | 28.5 | 47.50 | .... | 1 |
| *Little Falls* | 8,783 | 5 | ..... | 1 | 20.0 | 200.00 | ..... | .... |
| *Herkimer* | 3,000 | 5 | 20.00 | 0 | ..... | ..... | .... | .... |
| *Ilion* | 4,067 | 5 | 15.00 | 0 | ..... | 200.00 | .... | .... |
| UTICA | 46,608 | 90 | 23.20 | 25 | 27.8 | 111.10 | .... | .... |
| Whitestown | 5,225 | 7 | 16.00 | 1 | 14.3 | .... .... | .... | .. |
| ROME | 13,638 | 21 | 18.50 | 1 | 5.0 | .... .... | .... | . |
| Boonville | 3,512 | 6 | 20.50 | 1 | 16.7 | 333.30 | .... | .... |
| Camden | 3,675 | 6 | 20.40 | 1 | 16.7 | ..... | .... | .. |
| Waterford | 5,523 | 6 | 13.00 | 2 | 33 3 | 166.60 | .... | .... |
| *Ballston Spa* | 3,527 | 4 | 13.60 | 3 | 75.0 | .... .... | .... | .... |
| *Saratoga Springs* | 12,000 | 20 | 20.00 | 5 | 20 0 | 50.00 | .... | .... |
| Rest of District | .... .. .. | 245 | ..... | 35 | 14 3 | 114.30 | .... | 13 |
| SOUTHERN TIER DISTRICT: | | | | | | | | |
| Totals | ..... | 507 | 15.00 | 82 | 13.6 | 105.50 | 6 | 9 |
| BINGHAMTON | 34,514 | 55 | 19.10 | 9 | 16.5 | 165.60 | 2 | .... |
| *Owego* | 6,000 | 11 | 23.00 | 0 | .... | .... .... | .... | .... |
| Candor | 3,525 | 5 | 20.00 | 0 | .... | 200.00 | .... | .... |
| *Waverly* | 4,128 | 6 | 17.16 | 1 | 16.7 | 166.60 | .... | .... |
| ELMIRA | 30,000 | 49 | 19.67 | 15 | 33.3 | 142 85 | 2 | 1 |

FOR DECEMBER — (*Continued*).

| Malarial diseases. | Small pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | 1 | ... | 1 | ... | 8 | 1 | .. | 3 | ... | 2 | 3 | 1 | .... | 3 | 2 |
| ... | .... | .... | .... | .. | 1 | .... | 1 | 3 | ..... | .... | ..... | 1 | 1 | 3 | .... | .... | 2 | 1 |
| ... | .... | .... | .... | ... | ... | .... | ..... | 1 | 1 | ... | ..... | 1 | 1 | ..... | .... | .... | 1 | 1 |
| ... | .... | .... | .... | ... | ... | 2 | ..... | ..... | 1 | ... | 1 | .... | 1 | 1 | ... | 2 | ... | ... |
| ... | .... | .... | .... | ... | ... | 2 | ..... | 2 | ..... | ... | .... | 1 | ..... | ..... | .... | ... | 1 | 1 |
| ... | .... | .... | .... | ... | ... | 1 | ..... | 1 | 2 | ... | ..... | ..... | ..... | 1 | 1 | ... | 1 | 1 |
| 1 | . | 4 | 1 | 1 | 4 | 10 | ..... | 68 | 26 | 1 | 17 | 14 | 28 | 46 | 15 | 10 | 72 | 39 |
| ... | .... | 4 | .. | 3 | 4 | 14 | 1 | 77 | 38 | 1 | 26 | 19 | 28 | 46 | 12 | 9 | 76 | 44 |
| ... | ... | .... | ... | .. | .... | 2 | ... | 2 | 3 | .... | 2 | ... | ... | 3 | 1 | 1 | 4 | 1 |
| ... | .. | .. | .... | .. | .... | .... | ..... | ..... | 1 | .. | 1 | 1 | ..... | 1 | .... | ... | 1 | 2 |
| ... | ... | .... | .... | .... | .... | .... | ..... | ..... | ..... | .... | 1 | .... | ..... | ..... | .... | ... | 1 | .... |
| ... | .. | .... | .... | .... | .... | .... | ..... | 1 | 1 | .... | ..... | .... | 1 | 1 | .... | 1 | 2 | ... |
| ... | . | .... | .... | .... | .... | .... | ..... | 2 | 2 | .... | 1 | .. | ..... | 1 | .... | ... | ... | 1 |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 3 | 2 | .... | ..... | ... | 2 | 1 | .... | ... | 2 | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 2 | ..... | .... | ..... | .... | ..... | 1 | .... | ... | ... | 2 |
| ... | .... | 1 | .. | .... | 1 | .... | ..... | 6 | ..... | .... | ..... | .... | 2 | 2 | .... | .... | 4 | .... |
| ... | .... | .... | .. | .... | .... | 1 | ..... | 1 | 1 | .... | .... | .... | 1 | 1 | .... | .... | 1 | .... |
| ... | .. | .... | .... | .... | .... | .... | ..... | ..... | 1 | .... | ..... | .... | ..... | 1 | .... | .... | 2 | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... | .... | ..... | .... | ..... | 1 | .... | .... | ... | ... |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 1 | ..... | .... | 1 | ... | 2 | ..... | .... | .... | 3 | 1 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 | .... | ..... | .... | ..... | 1 | .... | .... | 1 | 2 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 5 | 1 | .... | ..... | .... | ..... | 1 | 2 | .... | 3 | .. |
| ... | .. | .... | .... | .... | .... | .... | ..... | ..... | ..... | .... | 1 | 2 | ..... | ..... | .... | .... | 1 | ... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | ..... | .... | ..... | .... | 1 | 1 | .... | .... | 2 | 1 |
| ... | .... | 3 | ... | 3 | 3 | 9 | 1 | 50 | 25 | 1 | 19 | 16 | 19 | 30 | 9 | 7 | 49 | 30 |
| 2 | ... | 9 | .... | 2 | .... | 27 | 1 | 122 | 47 | 2 | 24 | 23 | 47 | 58 | 13 | 16 | 61 | 35 |
| ... | ... | 4 | ... | .. | .... | 3 | ..... | 7 | 2 | .... | ..... | 1 | 1 | 3 | 2 | 1 | 3 | ... |
| ... | .... | .... | .... | .... | .... | .... | ..... | .... | 2 | .... | ..... | .... | .... | .... | 1 | 1 | 5 | .... |
| ... | .... | .. | .... | .... | .... | 2 | ..... | 7 | 2 | .... | ..... | .... | ..... | 1 | .... | 3 | ... | 2 |
| ... | .. | .... | .... | .... | .... | .... | ..... | 2 | ..... | .... | ..... | .... | ..... | .... | .... | .... | .... | 1 |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 2 | ..... | .... | ..... | .... | ..... | 1 | .... | .... | 2 | ... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 1 | 3 | .. | 3 | 1 | 5 | 4 | ... | 1 | 1 | 1 |
| ... | .... | .... | .... | .. | .... | .... | 1 | 1 | ... | .... | 1 | ... | 1 | .... | 1 | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 2 | 1 | .... | ..... | .... | .... | .... | .... | 1 | 1 | .... |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 1 | .... | .... | ..... | .... | 1 | 1 | .... | .... | .... | .... |
| ... | .. | .. | .... | 1 | .... | 9 | ..... | 20 | 9 | .. | 7 | 7 | 6 | 13 | 3 | 1 | 5 | 9 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 2 | ... | .... | 1 | .... | 1 | .... | 1 | .... | .... | 2 |
| ... | .. | .... | .... | .... | .... | 2 | ..... | 1 | 4 | .... | 1 | 1 | 3 | 6 | 1 | ... | 4 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | .... | 1 | .... | ..... | .... | 1 | ..... | 1 | .... | 1 | .... |
| ... | .... | .... | .... | .... | .... | .... | ..... | 3 | 2 | .... | ..... | .... | 1 | ..... | .... | .... | .... | .... |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 2 | 1 | .... | 1 | ... | ..... | 1 | .... | .... | .... | .... |
| ... | . | .... | .... | .... | .... | .... | ..... | 2 | 1 | .... | ..... | .... | ..... | ..... | .... | .... | .... | 1 |
| 2 | .... | 5 | ... | 1 | .. | 1 | ..... | 7 | 1 | .... | ..... | 2 | 1 | 1 | .... | 2 | 4 | 1 |
| 1 | .... | 4 | .... | 2 | .... | 27 | 5 | 62 | 18 | 2 | 10 | 11 | 26 | 27 | 3 | 5 | 35 | 18 |
| ... | .... | .... | .... | 1 | .... | 5 | 1 | 116 | 32 | 6 | 28 | 23 | 48 | 49 | 13 | 23 | 73 | 42 |
| ... | .... | .... | .... | .... | .... | .... | ..... | 17 | 6 | 1 | 1 | 4 | 5 | 4 | .... | 1 | 6 | 1 |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 5 | 1 | .... | ..... | .. | ..... | 2 | .... | .. | 3 | .... |
| ... | .... | .... | .... | .... | .... | 1 | ..... | 3 | .... | .... | ..... | .... | ..... | ..... | .... | .... | 1 | .... |
| ... | .. | .... | .... | .... | .... | 1 | ..... | 1 | ..... | .... | ..... | .... | ..... | ..... | .... | 2 | 2 | .... |
| ... | .. | .... | .... | .... | .... | 3 | 1 | 8 | 4 | 1 | 1 | 3 | 6 | 5 | 3 | 3 | 4 | 4 |

| | Population. | Total number of deaths. | Representing annual death rate per 1,000 of — | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever | Typhoid fever. |
|---|---|---|---|---|---|---|---|---|
| LAKE ONT. & WEST. DIS.—(*Con.*) | | | | | | | | |
| NIAGARA FALLS | 16,000 | 18 | 13.50 | 4 | 22.0 | 55.50 | ... | 1 |
| *Medina* | 4,500 | 8 | 8.00 | 1 | 33.3 | ..... | .... | |
| *Albion* | 4,586 | 6 | 15.66 | 3 | 50.0 | ..... | ... | ... |
| *Brockport* | 3,742 | 2 | 8.00 | 0 | | ..... | ... | .... |
| ROCHESTER | 150,000 | 288 | 18.60 | 48 | 20.1 | 113.45 | ... | 3 |
| Palmyra | 4,173 | 11 | 31.50 | 2 | 18.0 | 90.90 | .... | 1 |
| *Newark* | 3,000 | 4 | 16.00 | 1 | 25.0 | ..... | ... | .... |
| Lyons | 6,127 | 11 | 21.45 | 0 | .... | 90.00 | ... | .. |
| *Clyde* | 3,000 | 4 | 16.00 | 0 | .... | ..... | .... | .... |
| OSWEGO | 21,966 | 26 | 14.20 | 6 | 23.0 | 115.50 | .... | 1 |
| *Fulton* | 4,214 | 10 | 28.50 | 1 | 10.0 | 100.00 | ... | ... |
| Richland | 3,637 | 5 | 16.00 | 0 | ... | ..... | ... | .... |
| Rest of District | | 316 | ..... | 41 | 13.0 | 53.00 | .... | 6 |
| Totals for the State | | 10,600 | 19.25 | 2,834 | 26.7 | 117.25 | 46 | 159 |
| Average for Dec. for past 5 years. | | 8,500 | ... | 2,563 | 30.6 | 161.90 | 34 | 122 |
| Totals for November, 1893 | | 8,458 | 15.35 | 2,324 | 27.5 | 157.00 | 45 | 150 |

REMARKS.— The reported mortality has risen from the low daily average of 281 in November to unusually low, averaging 295 deaths daily, which is less by three deaths a day than in 1892. The of age was 26.7, a smaller relative mortality in early life than has yet been recorded in one month in 1,000 deaths from all causes, and is less, both relatively and actually, than in the preceding mortality is the same as that of a year ago. Diphtheria caused 678 deaths, the same as in applies to all parts of the State, except the Maritime District. Scarlet fever shows a slight increase, eastern districts. Measles increases in New York and vicinity, but hardly exists elsewhere. Long Island City and the town of Jamaica and twenty in the Kings County Hospital for recently developed in Troy. Consumption caused about 150 more deaths than in November, and Nervous diseases and Old age are also largely increased. Epidemic influenza has again recurred December, 1892, it was estimated that 400 deaths were caused by Grippe. The weather for the temperature averaged below the normal.

FOR DECEMBER — (*Continued*).

| Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | 2 | 3 | 1 | .. | 1 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | .. | .. | 1 | ... |
| ... | ... | 1 | ... | ... | ... | ... | ... | 4 | ... | ... | ... | ... | 1 | 2 | 1 | 1 | 1 | 1 |
| ... | ... | 1 | .. | ... | ... | 1 | 1 | 4 | 1 | ... | 1 | ... | 2 | ... | .. | 1 | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | 2 |
| ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 2 | ... | 1 | 1 | 3 | 2 | 1 | ... | 1 | 1 |
| ... | ... | ... | ... | ... | ... | 3 | .. | 5 | 4 | 2 | 1 | .. | 2 | 1 | 2 | ... | 3 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... | ... | ... | ... | ... | 6 |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | 1 | 1 |
| 1 | ... | 2 | ... | 1 | ... | 11 | 1 | 62 | 10 | 2 | 20 | 12 | 25 | 29 | 5 | 13 | 40 | 19 |
| .. | ... | 6 | 1 | 2 | ... | 25 | 2 | 140 | 42 | 5 | 35 | 32 | 42 | 46 | 11 | 22 | 92 | 38 |
| ... | ... | 6 | ... | 1 | ... | 10 | 2 | 44 | 18 | 1 | 5 | 12 | 9 | 10 | 1 | 7 | 15 | 81 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 |
| ... | .. | ... | ... | ... | ... | 5 | ... | 3 | . | 1 | ... | ... | ... | 2 | ... | 2 | ... | ... |
| ... | .. | ... | ... | ... | ... | 1 | ... | 4 | 1 | ... | 1 | . | 3 | 1 | .. | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | 4 | ... | 1 | .. | 1 | 1 | .. | 1 | 1 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | 1 | .. | ... | 2 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | .. | 2 | ... | 2 | ... | ... | 1 | .. |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | 3 | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... | 1 | ... | ... | 1 | .. | .. | .. | 1 | ... |
| ... | ... | ... | ... | 1 | ... | ... | ... | 2 | ... | .. | 1 | .. | 1 | .. | ... | 1 | .. | .. |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | ... | 1 | 1 | 1 | ... | 1 | 1 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | 2 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | ... | ... | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | ... | 1 | 1 | ... | 2 | ... |
| ... | ... | ... | 1 | ... | ... | 9 | ... | 71 | 18 | 2 | 25 | 16 | 23 | 23 | 9 | 10 | 58 | 13 |
| ... | .. | 4 | ... | ... | 4 | 29 | 1 | 91 | 44 | 2 | 21 | 24 | 45 | 52 | 12 | 19 | 67 | 36 |
| ... | ... | ... | ... | ... | ... | 15 | ... | 11 | 7 | ... | 1 | 2 | 4 | 3 | 1 | .. | 3 | 3 |
| ... | ... | ... | ... | ... | ... | ... | 1 | 5 | .. | ... | 1 | 1 | 1 | 3 | ... | 2 | 3 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | .. | .. | 1 | ... | ... | 1 | .. | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | 1 | 2 | 1 | ... | ... | .. | 2 | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... | 1 | 2 | ... | ... | 1 | ... | ... | 3 |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 2 | ... | ... | .. | ... | ... | 1 |
| ... | ... | ... | ... | ... | 1 | ... | ... | 2 | 1 | ... | ... | ... | 1 | 4 | 1 | 1 | 1 | ... |
| ... | ... | ... | ... | ... | 1 | 2 | ... | 2 | 1 | ... | ... | ... | 1 | 1 | .. | ... | ... | 1 |
| ... | ... | 1 | ... | ... | 1 | ... | ... | 2 | 1 | ... | ... | ... | 1 | ... | .. | ... | 3 | ... |
| ... | ... | ... | ... | ... | ... | .. | ... | 2 | 1 | ... | ... | ... | ... | 1 | 1 | ... | 2 | 1 |
| ... | ... | ... | ... | ... | ... | .. | ... | 1 | 1 | ... | ... | ... | 2 | 3 | .. | ... | 3 | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | ... | 1 | 3 | ... | ... | ... | ... | 3 | 3 |
| ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | 1 | ... | ... | 2 | . | ... | 1 | ... |
| ... | ... | 3 | ... | ... | 2 | 9 | .. | 58 | 26 | 2 | 14 | 11 | 30 | 34 | 8 | 15 | 45 | 19 |
| 2 | .. | 13 | 1 | 2 | 6 | 62 | 24 | 261 | 105 | 11 | 65 | 49 | 108 | 150 | 29 | 40 | 114 | 135 |
| 1 | .. | 9 | 1 | 1 | 5 | 30 | 18 | 111 | 41 | 6 | 24 | 14 | 40 | 70 | 6 | 19 | 24 | 74 |
| ... | ... | ... | ... | ... | ... | 3 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| ... | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | 1 | 1 | ... | 1 | ... | 1 | 1 | 2 |
| ... | .. | . | ... | .. | ... | ... | ... | 4 | 1 | ... | 2 | 1 | 1 | 3 | 2 | ... | 3 | 2 |

## TOTALS OF MORTALITY OF THE STATE BY MONTHS.

| 1893. | Total number of deaths. | Representing average daily death rate of— | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 10,490 | 338 | 3,056 | 29 1 | 137.00 | 44 | 120 | 34 | 15 | 237 | 86 | 52 | 94 |
| February | 9,353 | 334 | 2,810 | 30.0 | 136.28 | 46 | 101 | 29 | 23 | 196 | 80 | 58 | 121 |
| March | 12,000 | 387 | 3,418 | 28.5 | 121.17 | 89 | 115 | 37 | 29 | 221 | 76 | 41 | 166 |
| April | 11,865 | 395 | 3,339 | 28 1 | 111.16 | 104 | 111 | 34 | 23 | 199 | 73 | 55 | 133 |
| May | 10,718 | 346 | 3,080 | 28.7 | 128.94 | 159 | 93 | 40 | 21 | 193 | 92 | 43 | 127 |
| June | 8,728 | 291 | 2,885 | 33 0 | 162 88 | 96 | 88 | 42 | 10 | 154 | 99 | 24 | 77 |
| July | 12,332 | 398 | 6,231 | 50 5 | 324.25 | 86 | 87 | 45 | 16 | 79 | 75 | 13 | 92 |
| August | 11,037 | 356 | 4,954 | 45 0 | 298.64 | 55 | 157 | 62 | 11 | 63 | 44 | 14 | 129 |
| September | 9,346 | 311 | 3,718 | 39.8 | 248.65 | 49 | 227 | 63 | 23 | 34 | 24 | 11 | 85 |
| October | 8,981 | 290 | 2,994 | 33.4 | 185.00 | 56 | 253 | 50 | 19 | 65 | 14 | 16 | 56 |
| November | 8,458 | 281 | 2,324 | 27 5 | 157.00 | 45 | 180 | 30 | 27 | 77 | 56 | 14 | 50 |
| December | 10,600 | 342 | 2,834 | 26 7 | 117.25 | 46 | 158 | 27 | 35 | 106 | 70 | 25 | 73 |
| Totals for first six months | 63,154 | 349 | 18,588 | 29.4 | 131.27 | 538 | 623 | 216 | 121 | 1,202 | 506 | 273 | 718 |
| Totals for last six months | 60,754 | 330 | 23,055 | 37.9 | 230.47 | 337 | 1,062 | 277 | 131 | 424 | 283 | 93 | 485 |
| Totals for the year | 123,908 | 340 | 41,643 | 33.6 | 179.91 | 875 | 1,685 | 493 | 252 | 1,626 | 789 | 366 | 1,203 |

## TOTALS OF MORTALITY OF THE STATE BY MONTHS — (*Continued*).

| 1893. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 613 | 141 | 2,293 | 1,099 | 136 | 568 | 607 | 866 | 1,128 | 260 | 339 | 515 | 1,243 |
| February | 480 | 141 | 1,910 | 954 | 102 | 602 | 554 | 779 | 1,102 | 218 | 279 | 496 | 1,080 |
| March | 517 | 163 | 2,951 | 1,286 | 131 | 699 | 695 | 885 | 1,330 | 303 | 334 | 589 | 1,343 |
| April | 444 | 143 | 2,943 | 1,329 | 124 | 678 | 637 | 865 | 1,413 | 304 | 402 | 572 | 1,279 |
| May | 439 | 175 | 1,944 | 1,239 | 86 | 660 | 664 | 834 | 1,287 | 286 | 544 | 508 | 1,284 |
| June | 359 | 478 | 1,010 | 1,065 | 67 | 612 | 503 | 679 | 1,108 | 241 | 564 | 384 | 1,073 |
| July | 279 | 3,206 | 746 | 1,073 | 72 | 1,219 | 552 | 726 | 1,252 | 300 | 598 | 383 | 1,333 |
| August | 328 | 2,406 | 663 | 1,040 | 73 | 986 | 534 | 676 | 1,167 | 283 | 600 | 432 | 1,314 |
| September | 411 | 1,395 | 713 | 912 | 68 | 863 | 528 | 691 | 1,026 | 268 | 443 | 391 | 1,221 |
| October | 599 | 533 | 947 | 1,070 | 58 | 771 | 542 | 658 | 1,010 | 273 | 422 | 363 | 1,206 |
| November | 700 | 152 | 1,242 | 957 | 57 | 595 | 429 | 691 | 925 | 242 | 411 | 469 | 1,009 |
| December | 678 | 123 | 2,445 | 1,099 | 80 | 581 | 610 | 792 | 1,078 | 254 | 359 | 724 | 1,237 |
| Totals for first six months | 2,852 | 1,241 | 13,051 | 6,972 | 646 | 3,819 | 3,660 | 4,908 | 7,368 | 1,612 | 2,462 | 3,064 | 7,302 |
| Totals for last six months | 3,095 | 7,815 | 6,756 | 6,151 | 408 | 5,015 | 3,295 | 4,134 | 6,458 | 1,620 | 2,833 | 2,762 | 7,320 |
| Total for the year | 5,947 | 9,056 | 19,807 | 13,123 | 1,054 | 8,834 | 6,955 | 9,042 | 13,826 | 3,232 | 5,295 | 5,826 | 14,622 |

## TOTALS OF MORTALITY IN THE SEVERAL SANITARY DISTRICTS FOR THE YEAR.

| DISTRICTS. | Population per square mile. | Total number of deaths. | Deaths under five years. | Percentage of deaths under five years to total deaths. | Zymotic deaths per 1,000 deaths from all causes. | Cerebro-spinal fever. | Typhoid fever. | Malarial diseases. | Small-pox. | Scarlet fever. | Measles. | Erysipelas. | Whooping cough. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 1,465 | 75,027 | 29,561 | 39.4 | 191.16 | 652 | 657 | 337 | 252 | 939 | 538 | 227 | 905 |
| Hudson Valley district | 117 | 12,174 | 3,574 | 25.3 | 163.22 | 70 | 288 | 65 | ..... | 213 | 41 | 27 | 86 |
| Adirondack and Northern district | 26 | 4,367 | 881 | 20 1 | 133 50 | 13 | 89 | 9 | .... | 43 | 14 | 11 | 41 |
| Mohawk Valley district | 80 | 5,497 | 1,831 | 22.4 | 142.81 | 19 | 118 | 16 | ..... | 67 | 22 | 16 | 25 |
| Southern Tier district | 62 | 4,838 | 240 | 19.4 | 171.77 | 28 | 105 | 8 | ..... | 68 | 51 | 17 | 19 |
| East Central district | 58 | 5,491 | 1,914 | 22.0 | 146 97 | 21 | 100 | 17 | ..... | 26 | 71 | 17 | 34 |
| West Central district | 65 | 3,865 | 600 | 15.3 | 123 42 | 12 | 61 | 14 | ..... | 32 | 14 | 12 | 19 |
| Lake Ontario and Western district | 181 | 12,649 | 4,242 | 33 5 | 196.06 | 60 | 267 | 27 | ..... | 238 | 88 | 39 | 74 |

TOTALS OF MORTALITY IN THE SEVERAL SANITARY DISTRICTS FOR THE YEAR—(*Concluded*).

| DISTRICTS. | Croup and diphtheria. | Diarrhœal diseases. | Acute respiratory diseases. | Consumption. | Puerperal diseases. | Diseases of digestive system (not diarrhœal). | Diseases of urinary system. | Diseases of circulatory system. | Diseases of nervous system. | Cancer. | Accidents and violence. | Old age. | Unclassified |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Maritime district | 3,837 | 5,908 | 13,472 | 8,359 | 600 | 5,099 | 4,583 | 4,609 | 7,558 | 1,614 | 3,030 | 1,543 | 10,218 |
| Hudson Valley district | 507 | 690 | 1,827 | 1,244 | 114 | 872 | 600 | 1,117 | 1,577 | 356 | 536 | 853 | 1,091 |
| Adirondack and Northern district | 177 | 186 | 561 | 459 | 44 | 340 | 197 | 402 | 508 | 157 | 163 | 523 | 430 |
| Mohawk Valley district | 209 | 293 | 702 | 564 | 40 | 403 | 323 | 523 | 728 | 200 | 237 | 527 | 465 |
| Southern Tier district | 294 | 241 | 584 | 372 | 52 | 376 | 239 | 472 | 594 | 164 | 250 | 513 | 391 |
| East Central district | 257 | 264 | 733 | 537 | 48 | 418 | 268 | 551 | 662 | 192 | 243 | 557 | 445 |
| West Central district | 167 | 146 | 418 | 409 | 35 | 309 | 203 | 386 | 511 | 156 | 187 | 457 | 317 |
| Lake Ontario and Western district | 499 | 223 | 1,510 | 1,179 | 121 | 1,017 | 543 | 982 | 1,688 | 393 | 649 | 823 | 1,265 |

## SUMMARY OF MORTALITY, ETC.—(*Continued*).

| DISTRICTS. | FROM TYPHOID FEVER. | | | | | | FROM DIPHTHERIA. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. |
| In each 1,000 deaths there were in the — | | | | | | | | | | | | |
| Maritime district.. ... ..... | 8.66 | 9.65 | 9.26 | 8.81 | 8.50 | 8.75 | 67.95 | 68.00 | 49.10 | 46 41 | 47.90 | 51.14 |
| Hudson Valley district..... | 32.22 | 22.14 | 20.36 | 30.47 | 18.86 | 23.65 | 64.27 | 65.00 | 13.30 | 30.96 | 56.86 | 41.65 |
| Adirondack and Northern district..... | 18.84 | 23.01 | 13 33 | 19.60 | 19.63 | 20.40 | 46.57 | 33.87 | 37.90 | 34.13 | 29.33 | 40.56 |
| Mohawk Valley district..... | 21 98 | 21.32 | 30.71 | 27.76 | 27.69 | 21.45 | 65.52 | 52.12 | 53 72 | 31.45 | 45.63 | 38.00 |
| Southern Tier district..... ..... | 28.38 | 33.02 | 23.61 | 28.39 | 21.69 | 21.75 | 34.18 | 34 54 | 35.28 | 41.97 | 50.26 | 60.66 |
| East Central district... ..... | 28.65 | 24.00 | 18.50 | 26.40 | 14.22 | 18.23 | 43 10 | 33.79 | 22.78 | 17.40 | 31.35 | 46.78 |
| West Central district..... | 17.28 | 19.53 | 17.49 | 17 57 | 14.03 | 15.90 | 28.38 | 27.07 | 16.38 | 8.91 | 19.31 | 43.35 |
| Lake Ontario and Western district.... | 23.07 | 21.28 | 21.58 | 23.55 | 22.76 | 21.04 | 51.09 | 35.78 | 32.64 | 42.08 | 57.11 | 39.38 |
| The entire State..... | 14.18 | 14.86 | 13.79 | 15.52 | 13.25 | 13.51 | 61.78 | 56.12 | 42.07 | 40.78 | 46.86 | 48.00 |

## SUMMARY OF MORTALITY, ETC. — (*Concluded*).

| DISTRICTS. | FROM DIARRHŒAL DISEASES. | | | | | | FROM CONSUMPTION. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. |
| In each 1,000 deaths there were in the— | | | | | | | | | | | | |
| Maritime district | 91.58 | 86.04 | 82.58 | 82 29 | 86.10 | 80.00 | 124.10 | 123.20 | 127.72 | 112.11 | 110.60 | 111.30 |
| Hudson Valley district | 67 18 | 61.30 | 40.04 | 58.97 | 59.56 | 56.67 | 114.20 | 150 92 | 121.92 | 110.00 | 104.13 | 102.20 |
| Adirondack and Northern district | 60 55 | 62.00 | 43.28 | 69 23 | 45.88 | 42.65 | 110.91 | 121.76 | 108.50 | 111.35 | 106.31 | 105.25 |
| Mohawk Valley district | 61.65 | 65.90 | 56.39 | 52.69 | 41.54 | 53.26 | 115.86 | 113.50 | 112.40 | 108.08 | 104.00 | 102.50 |
| Southern Tier district | 54.02 | 58 11 | 52.72 | 53.37 | 41.95 | 50.00 | 100.78 | 88.49 | 89.50 | 88.64 | 86.95 | 77.00 |
| East Central district | 73.71 | 80.65 | 57.34 | 68.47 | 46.29 | 48.13 | 110 61 | 110.95 | 108.78 | 106.78 | 97.69 | 98.00 |
| West Central district | 37.96 | 46.53 | 44.54 | 37.87 | 28.51 | 37.90 | 112.20 | 110.35 | 106.83 | 105.94 | 101.40 | 105.92 |
| Lake Ontario and Western district | 99.43 | 88.63 | 75.90 | 73.22 | 78.09 | 97.95 | 103.60 | 104.46 | 106.12 | 103.94 | 108.88 | 93.25 |
| The entire State | 84.00 | 79.56 | 72.48 | 74.15 | 72 72 | 73.30 | 118.55 | 120.01 | 118.37 | 109.50 | 106.66 | 105.94 |

REMARKS.—The sanitary districts into which the State is divided are as follows: Maritime District: Includes New York, Long Island, Staten Island and Westchester county. Hudson Valley District: All the counties on either side of the Hudson river, except Westchester, to and including Albany and Rensselaer. Adirondack and Northern District: The northern section of the State—the counties of Washington, Warren, Hamilton, Essex, Clinton, Franklin, St. Lawrence, Jefferson and Lewis. Mohawk Valley District: Schenectady Schoharie, Saratoga, Montgomery, Fulton, Herkimer and Oneida counties. Southern Tier District: The seven counties along the southern border of the State. East Central District: Sullivan, Delaware, Otsego, Madison, Chenango, Onondaga, and Cortland counties. West Central District: Cayuga, Tompkins, Seneca, Schuyler, Ontario, Yates, Livingston, Genessee and Wyoming counties. Lake Ontario and Western District: Oswego, Wayne, Monroe, Orleans, Niagara and Erie counties.

There have been 123,908 deaths reported during the year in the Monthly Bulletins, 4,317 reported too late to be included in the Bulletins, and 275 estimated to have occurred in thirteen towns failing to make any return, making a total number of deaths in the State for the year 128,500. In 1892 there were 2,400 more deaths reported in the Bulletin and a total of 2,250 more deaths for the year. The death rate for 1893 was 19.50; in 1892 it was estimated at 20.78; in 1891 at 21.43; in 1890 and 1889, at 19.65.

The Infant mortality (under 5 years) was 33.6 per cent; that of the preceding years was respectively, 32.5, 34.5, 31.6 and 33.6. The Zymotic death rate for the year 180.00 per 1,000 deaths from all causes; that of the preceding years was respectively, 182.87, 178.00, 169.00, and 206.00. Typhoid fever caused the same ratio of deaths as last year, both being years of comparative freedom from it. From Diphtheria there were 5,947 deaths; in 1892 and the three preceding years, 5,918, 5,072, 4,915, and 5,855; it has been most fatal during the fall months. Scarlet fever caused 1,626 deaths (2,177 in 1892 and 2,254 in 1891). Measles caused 789 deaths, about half the number of 1892 and the fewest of any year on record. There were 1,200 deaths from Whooping Cough; in 1892, 920, which is about the average for the past eight years. Diarrhœal diseases caused 9 000 deaths, near the uniform average for other years. Deaths reported from Cerebro-spinal Fever (875) are more than usual; from Malarial diseases (493) less than usual. Small-pox, following two years of almost entire freedom from it, has been continuously prevalent in New York city and vicinity since early in 1892, causing 252 deaths (143 in 1892); no deaths have occurred from it outside of the Maritime district; but isolated cases occurred at Waterloo, Waterford, Geneva, Warwick and Newton's Corners, in Hamilton county. Epidemic Influenza reappeared early in the year (its fourth recurrence), reached its height in April and caused about 6,000 deaths; it again became epidemic in December, when 1,000 deaths were attributed to it, and it continues prevalent into 1894 (8,000 deaths in 1892). There were 19,800 deaths from Acute Respiratory diseases (20,432 in 1892); 13,123 from Consumption (13,471 in 1892); 13,826 from diseases of the Nervous System (14,000 in 1892); 9,042 from diseases of the Circulatory System (9,013 in 1892); 8,834 from diseases of the Digestive System (8,920 in 1892); and 5,826 from Old Age (6,385 in 1892). It is on these mainly, and on unclassified diseases, from which there were 14,632 deaths, that Grippe falls. There were from all causes 340 deaths daily, as reported in the Bulletin (350 in 1892, 335 in 1891 and 325 in 1890).





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